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AUTHOR Kowalski, Kenneth; Chittenden, Edward; Spicer, Willa; Jones, Jacqueline; Tocci, Cindy

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ABSTRACT

The National Board for Professional Teaching Standards (NBPTS) has challenged test developers to create a voluntary program of certification in which highly accomplished teachers receive recognition for meeting rigorous standards. These four papers report the experiences of teacher-candidates, school district administrators, researchers, and test developers who have participated in aspects of the National Board certification process. The first paper, "Professional Development and the NBPTS Certification Process: A Candidate's Perspective" by Kenneth Kowalski, presents an account of the professional development aspects of the certification process from the perspective of a candidate who has just completed the process. In the second paper, "Implications of National Board Certification for the Assessment and Supervision of Tenured and Non-Tenured Teachers" by Willa Spicer, an assistant superintendent presents a school district's response to the National Board's model and its implications for teacher evaluation and supervision. The third paper, "An Observational Study of National Board Candidates as They Progress through the Certification Process" by Edward Chittenden and Jacqueline Jones, takes a researcher's perspective and traces the progress of three different groups of teachers through the National Board certification process. In the last paper, "Professional Development Materials in the Context of Professional Certification: Lessons from the Field" by Cindy Tocci, a member of the certification development team reports on ways in which information from field studies has informed test development, increased understanding of the support mechanisms candidates may require, and aided the design of professional development materials. (SLD)

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Kenneth Kowalski
South Brunswick, NJ School District

PROFESSIONAL DEVELOPMENT AND THE NBPTS CERTIFICATION PROCESS: A CANDIDATES' PERSPECTIVES

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IMPLICATIONS OF THE NBPTS FOR THE ASSESSMENT AND SUPERVISION OF TENURED AND NON-TENURED TEACHERS

Jacqueline Jones, Symposium Chair
Edward Chittenden
Educational Testing Service
Princeton, NJ

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Educational Testing Service
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PROFESSIONAL DEVELOPMENT MATERIALS IN THE CONTEXT OF PROFESSIONAL CERTIFICATION: LESSONS FROM THE FIELD

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Professional Development in the Context of National Board for Professional Teaching Standards Certification: Implications Beyond Certification

The National Board for Professional Teaching Standards has challenged test developers to create a voluntary program of certification in which highly accomplished teachers receive recognition for meeting high and rigorous standards in the practice of their craft. While this task alone would be a worthy challenge, the National Board has also required that the certification process should itself provide candidates with a valuable professional development experience.

This four-part symposium is intended to report the experiences of National Board teacher-candidates, school district administrators, researchers, and test-developers who have participated in various aspects of the National Board certification process. The first paper will present an account of the professional development aspects of the certification process from the perspective of a candidate who has completed the process. In the second presentation, the school district's assistant superintendent will present the district's response to the National Board's model and its implications for the evaluation and supervision of their non-tenured and tenured teachers.

Taking a researcher's perspective, the third paper will trace the progress of three different groups of teachers from the same school district through the National Board certification process and will report on those aspects of the certification process that encouraged teachers' to reflect on their practice. Finally, a member of the certification development team will report on ways in which information from field studies has informed test development, increased understanding of the support mechanisms that candidates may require, and aided the design of professional development materials.

PROFESSIONAL DEVELOPMENT AND THE NBPTS CERTIFICATION PROCESS: A CANDIDATES' PERSPECTIVES

Kenneth Kowalski,
The South Brunswick, NJ School District

Background

The question I have most often been asked is why would any teacher choose to put himself or herself through the ordeal of the National Board for Professional Teaching Standards (NBPTS) certification process. This may be the most important question of anyone who is thinking about applying, for without a good clear reason, one may soon get caught in the underbrush of details, lose sight of the destination or even the path, and decide it is too overwhelming to continue.

I will offer a quote from Dante's Inferno, edited by Daniel Halpern, that sheds some light onto my own motivation for applying.

> In the middle of the journey of our life
> I found myself astray in a dark wood
> where the straight road had been lost sight of.
> How hard it is to say what it was like
> in the thick of thickets, in a wood so dense and gnarled
> the very thought of it renews my panic.

Here was a description of myself. I have often wondered how a teacher can know success. How can a teacher really judge her or his expertise? There are many indicators for teachers, and I have been blessed enough to have received praise from students, parents, colleagues, and administrators over the years, and still the changes in education come so rapidly, the research journals are so full of new ideas and angles, the culture of the community and society at large is so constantly changing and reflecting the philosophies and economics of the times, that anyone like myself, who has been teaching for twenty years or more, can indeed feel panic when looking at the serpentine path of our lives in education.

Besides, I was fortunate enough (administrators take advice here) to have been invited by a most trusted and dear friend, Willa Spicer, South Brunswick's Assistant Superintendent for Curriculum, who knows the world of education, and who knows my own state of mind with remarkable insight. An invitation is so much more enticing than an application, and so much more indicative of a pleasant, challenging, rewarding experience.

I had often spoken with my principal about the uninspiring teacher evaluation process we follow, where teachers were not at all encouraged to venture into new areas of instruction, the way a researcher-scholar must. Teachers are encouraged too often to think only in terms of the weakness vs. strength format, so for final evaluation purposes you only want to show your strengths. That is what you want written into the paper that goes into your personal file in the board office. I have even heard that certain principals request what is called the "dog and pony show" when you perform a lesson specifically

designed to please that principal. This may have a purpose but it is not much help to the teacher.

What really happens in teaching is that every day is new and every lesson is new, unless the teacher is really numb, and the path to increasing the abilities and understandings of each student is in no way a clear and straight path. I continue to have the firm belief that teaching is not, as some current philosophers might have us believe, a black and white issue. It is not simply getting students to memorize two- thousand facts. There is so much more, in color and shape, that I could not begin to describe it.

That was how I was when the NBPTS Standards were brought to us that first year. Those standards, as unreachable as they felt at times, were just what I needed. A call to arms or a proclamation of just what it is a teacher needs to aspire to, impossible or not. Here is a goal worthy of a career.

Reflection with Colleagues

What happened then was probably one of the most valuable educational experiences my colleagues and I ever had. Those of us who were studying the Standards that year (1992-93) got together and came up with a plan to teach lessons to our colleagues who were not studying with us. These colleagues would be briefed on the Standards and asked to critique our lessons. They were to judge whether or not we had convinced them that our lessons achieved the Standards. We all came complete with student work samples, stacks of resource materials, all kinds of audio-visual materials, and loads of excitement.

Unfortunately, our lessons were not done in a classroom with children, because in the current state of education we just don't have the time and resources to have our colleagues sitting in the back of the room when one of us is teaching a lesson. On the other hand, everyone who was a judge was a teacher, and was pretty good at telling what would work and what wouldn't. Each of us presented a lesson, along with whatever evidence we had that we were meeting the Standards. Our colleagues immediately started filling in forms and filling our ears with their impressions.

This was not routine evaluation. The room was truly alive because whatever anyone said could be trusted. This was not the evaluation game, this was coaching, encouraging, praising, and the giving of advice that could be taken for what it was, another idea that might work. I was deeply impressed by the lessons of my colleagues, I never knew there was so much expertise and artful design behind their lessons. But how could I have known, I never had the chance to sit and watch, or even to sit and listen to them describe what it is they do so well. These evaluations were not going to just sit in a filing cabinet. These evaluations were raising the level of teaching in our district.

The feedback for my own lesson was more than I could ever get from a routine evaluation. I have always been lucky to have worked with principals whom I respected and who I felt understood me. Yet, a principal is only one person, one voice, and a hurried one at that. The principal must squeeze the evaluation conferences in between other meetings

and besides, when a principal offers advice, one wonders immediately if that principal has ever tried that suggestion in class, and if so, was it within the past ten years!
As I said above, the feedback I received was immediate, personal and could be trusted.

My colleagues felt the same. The following are some quotes from those who were there.

> "From my colleagues, I learned that I undervalue certain things that I do. I did not realize the extent to which I actually apply what I know to be good practice in everyday situations."
>
> "What we did in the Standards group is something I would like to continue doing regardless of the requirements of the NBPTS. It is valid and important on its own, it is something which should be going on. It's about creating new understandings and possibilities. It's about teachers reflecting on their own and with others about their profession." Bob Jamet.
> "This process has opened the door for teachers to work in small groups to isolate and discuss major concerns, solve problems, define and assess effective teaching, and give and receive advice, thus being part of a community of continual learners."
>
> "I have benefited a great deal from my involvement in this project. I found the meeting sessions to be very helpful. They gave me an opportunity to hear other viewpoints and gave me a frame of reference for my own beliefs about teaching. In addition, the process has helped me to focus on my reflection and to make changes based upon what I see."
>
> "I found it an eye-opening experience to suddenly be asked to break down my teaching practices, which I considered to be so much a part of my personality and experience, into professional teaching standards. I was challenged into looking at what I considered to be normal everyday instructional practices through a microscope. After years of teaching I found myself questioning whether or not I would be considered a highly accomplished or exemplary teacher. I feel I am better able to recognize that what I have been doing for many years is not only applauded by my immediate superior in my school and my district but on a national level. As I plan for the new year ahead I will make the extra effort to make sure that as many standards as possible are incorporated into my teaching. I have seen how these practices are not only accepted but are keys to successful learning."
>
> "Working with colleagues was a joy. We were able to draw on each other's strengths. It was all very professional. With all that collaboration, we were able to list ways we could improve or expand the project when it was time to evaluate the program. Isn't that a sign of a true professional--always striving, always stretching, always looking for a challenge?"

The Portfolio

Receiving the NBPTS portfolio package in the Fall of 1993 was a daunting experience. It took us quite a while as a team to figure out what all of the requirements were and what they meant. Hopefully, as a result of our pilot experience and the questions and feedback we sent to NBPTS, the process is now easier for those who are applying.

There are many decisions any candidate must face and they are very valuable ones. Decisions in solitude can be maddening, so once again I must emphasize the importance of working with a team of people who can listen and share in the agony of decision-making. Different members of our team used different ways of analyzing lessons, or different ways of compiling tapes, or different ways of narrating sixty minutes of lessons. Now,

however, things differed from the year before. We were more isolated and certainly feeling more of a time crunch.

We spent time in meetings trying to understand what was required of us in the portfolio and figuring out the best way to complete these tasks. We were not spending time analyzing our lessons with colleagues. We were the pilots. No one had done these specific tasks before, and there was a lot to work out. As much as we could we worked in teams, however, sometimes that just could not happen. I remember video taping lessons and how difficult that process was when done alone.

As a teacher, I must always decide how much play, or art, or humor, or looseness to put into a lesson, and this decision is a moment by moment one, depending on the flow and feel of the class. This was sometimes very difficult to watch later on after the tapes had been made. The camera often could not capture the full range of the class, which is what I was working with. Instead it was showing a small segment of the class, and therefore my decisions may not have made the fullest sense to the viewer (including myself, the most nervous viewer) who could only see what is on the screen, that small part of the class. Next time I would make sure that I had someone who was experienced to tape my class, using better video and sound equipment. With so much riding on a tape, sticking a small hand-held camera in the corner of the room, with its own small microphone, is a mistake.

Since the tapes showed so little of the class I resolved that future tapes would be far better scripted and better prepared. Would this mean less spontaneity? Quite likely, but that spontaneous moment is extremely difficult to catch on tape, especially when the camera is stuck in the corner of the room with no one operating it. It may even be worth it to establish a "stage" which is in the cameras focus. The problem is that we are now approaching the "dog and pony show" on tape.

The tapes are also to be viewed by an unknown audience, possibly from a very different school culture or climate, and that means, maybe for the purposes of evaluation the performing teacher must select and plan a general showpiece lesson carefully. This is not a time to just put the camera in a corner and shoot a typical class scene. "Typical" in South Brunswick, New Jersey may be "atypical" in the evaluation room, wherever that is. Many people were also stuck on the editing of the one tape that was to show a series of lessons. We had neither the experience nor the equipment to edit the video and sound portions of up to sixty minutes, covering five or six lessons.

Completing many segments of the portfolio were truly enriching experiences. Collecting references from colleagues and other professionals who could describe in some way my performance as a teacher and community member was a rewarding experience, one that ensured success whatever the outcome of the NBPTS judges. The same is true when rewriting a resume, or recounting how many committees and projects I have served on over the past twenty years. This would also be a terrific team project, but we were under tremendous time pressure. With colleagues in different buildings, it was not always so easy to get together and share our progress.

We were all feeling that we would have benefited greatly if the portfolio materials from NBPTS had been given to us the summer before we started our school year. Teachers need a month or more to study the requirements and start collecting the paper work. As I mentioned above, plans need to be made to help each other out with the scheduling of taping sessions, and to try not to lose the most rewarding opportunity of working with colleagues as we did in the first year of study (1992-93). Having some time during the summer to share lessons with colleagues would be of great benefit to anyone, whether they were going for certification or not.

The Assessment Center

We did spend two days at the testing center. They were long days with lots of sitting, however, the tasks we were working on were very interesting and had a real life quality about them. Most of our team were fortunate enough to stay in New York City overnight. This allowed us some time to relax after testing. We would walk around the city or gather together and debrief our experiences over dinner. It was fun to share just how we answered the question on teaching a poetry lesson, or using SIM CITY with sixth graders, or teaching the social studies concept. This helped prepare us for the second day. Others who were not so fortunate, were commuting an hour and more, arriving by eight in the morning and working until almost five.

The test center atmosphere was both a test situation and a real life work discussion combined. It was a time to test ourselves, to exercise our ideas and opinions, and then to commit to paper, to a judge, to an unknown audience, our beliefs and the practices that flow from our beliefs. This is a vital exercise. During our evening discussions, when my colleagues and I mixed our ideas with the ideas of others from around the metropolitan area, we could assess for ourselves just how well we matched up with these other excellent teachers.

Our group has met many times since and I know that I hold my fellow test-takers in a higher regard. I know them that much better. I value their opinions and respect their beliefs far more strongly than even before. The Standards remain for us reminders of how we should be, of just what we should be shooting for. Our experiences tell us it is possible to embed these Standards into every lesson we teach, every encounter we have with students, parents and colleagues.

> To contemplate the challenge of achieving standards set forth
> for community and school, is to enter a place I yearn for,
> yet a place that can be, at once, alone and unreal.
> Our self-reflection before colleagues, our self-renewal
> through discussion and exploration, our reinforcement
> of each other's creativity is the beginning of the way.
> Now is the time to make sure we follow close together
> until we reach a ground where each can see
> how his work carries as clear as brilliant night sky.
> And we came out and looked up at the stars.

IMPLICATIONS OF NATIONAL BOARD CERTIFICATION FOR THE ASSESSMENT AND SUPERVISION OF TENURED AND NON-TENURED TEACHERS

Willa Spicer
Assistant Superintendent for Curriculum
The South Brunswick, New Jersey School District

Background and Purpose

With a grant from the New Jersey Dodge Foundation, the South Brunswick, NJ School District has been working with Educational Testing Service and the National Board for Professional Teaching Standards for over four years. During that time, teachers and researchers alike have been exploring the relationship between the National Board's standards and procedures for certifying accomplished teachers and the system's responsibilities for supervising, evaluating and assuring the continuous professional growth of both tenured and non-tenured staff members. The basic concept--that professional growth is tied to data aggregated, studied, and presented by teachers themselves--is a new concept at the local level. It changes the role of the supervisor and the teacher, permitting a wide range of relationships, issues and opportunities for both teachers and supervisors.

To put this experience in context, a long-term look at the system is critical. Over the last several years many things changed in the South Brunswick Schools. Scheduling is different at the high school; new roles have been defined for teachers--teacher leaders, task force leaders, staff aides, staff developers; technology has increased exponentially and the system has grown to a fairly large school system for the state of NJ.

In the process, the importance and type of student accountability changed drastically. The Board of Education adopted a single goal of high student achievement and teachers learned to collect evidence of student learning on a variety of instruments, in a variety of ways. They learned to look at what students *could* do and to build program and judgments on the information they held. The system developed standardized portfolios for mathematics, revised existing portfolios for early childhood programs and added performance assessments in hard-to-measure areas such as speaking and research. Many teachers also developed their own measures in particular courses such as biology or English. With the addition of the published standardized tests, everyone had a good deal of information about how we were doing.

In the midst of all this, there was great talk about staff development. The high school and the middle school put emphasis on the brain research, searching for ways to engage young people in the work of the classroom. The elementary schools looked for new ways to approach math and science, studying the problem-solving processes needed for students to bring meaning to their studies. At all levels teachers strained to learn about the new technology and how to integrate it into their programs. As a regular part of being on staff, teachers dealt with creating, reviewing and/or revising new assessments and methods of information gathering about students and about parents.

Yet, like many of the changes in education over the years, neither teachers nor administrators applied new learning to their own jobs. Surely, there was a fair share of resistance and a fair share of considered thought about changes. But the rhetoric of change dealt with students and parents. Nobody I worked with suggested that if portfolios and performance assessments were good ways to evaluate students, they might be good ways to evaluate teachers. To conceptualize that idea, we needed an outside agency and The National Board served that purpose. (Perhaps it should be noted that the local district always needed an outside agency to deal with big ideas and that ETS often serves that role in this system.)

The call for volunteers to prepare for certification was surprising and gratifying. In the best tradition of a learning community, 19 teachers originally entered into consideration of their own teaching. Their experiences and responses are outlined in the ETS monograph by Ted Chittenden and Jacqueline Jones. The report includes ample testimony by these teachers and by those that followed that the certification experience led to important personal learning, to significant changes in teaching and to the development of new habits of mind that influence the professional decisions made daily.

From the district's point of view, these experiences could not be ignored. Where to start? The teachers working with the Board had created their own staff development. They had, as Ted Chittenden remarks, "rummaged around in their own teaching and discovered where they were strong and where they were wobbly." They had collaborated with their colleagues and, as they reported, also with their students. It was clear to the observer that there were benefits for both the system and the teachers when self-evaluation was structured and collaborative.

Non-tenured Teachers

So we started at the easiest point. The non-tenured teacher. Here evaluation was critical; a million dollars was tied up in each decision to give life-time security to a young teacher and mistakes could influence hundreds of children. Administrators honed the methods for evaluating non-tenured teachers, improving the standards so that they could be easily understood, becoming more skilled observers and learning to give useful feedback.

But our experience with the National Board led us to believe something important was missing in the process. The cycle of pre-observation, observation, feedback and teacher response was limited. We needed a reflective component in the process. So we added a teacher portfolio, designed for the sole purpose of having teachers reflect on their own teaching. We wished to assure ourselves that we were not giving tenure in this system to any person who could not adequately reflect on their own performance and their own growth.

The portfolio contained a section for every element in the job description. Thus, it went far beyond the classroom observation, and it permitted a good deal of choice about what artifacts should go into the portfolio, giving new teachers an opportunity to deliberate on what might serve as evidence. The selection of evidence for good teaching or for

professional growth is a task which, in the past, was reserved for supervisors and evaluators. The most important part of the portfolio is that it is not so anymore. We should not have been surprised to discover that teachers, faced with the task of creating a portfolio, immediately turned to each other for help and support. In many schools, portfolio groups arose where teachers met with one another to discuss the inclusions for the portfolio. Even if no portfolio was ever used, these discussions are invaluable. Imagine, groups of teachers discussing what might be evidence of successful teaching and learning.

Tenured Teachers

Next, we turned to the system for tenured teacher evaluation. At this point in this system's learning, many members realized that we did not have a grasp of the new theory supporting change in supervision and evaluation. Usually, theory precedes change, but we had been influenced by the National Board and had not read widely. Several members of the faculty began to read at this point and found some interesting, but limited, literature on changes in supervision. (A short reference list is included with this paper.)

We started with a conference at ETS to talk about supervision and evaluation. The participants in the conference included school board members and teacher union leaders, principals and supervisors, central administrators and ETS researchers. The assembly was addressed by several teachers who had gone through the certification as accomplished teachers and by a representative from the National Board staff.

Clearly, tenured teacher evaluation differed from non-tenured evaluation. The conversation at the conference gave some inkling of what those differences were. For a wide variety of teachers, ranging from excellent to OK, the evaluation was considered a once-a-year verification of whatever they did. The suggestions the teachers got after observations were not as important as the "pat on the back" that teachers felt they deserved and valued. Most tenured teachers could think of no good reason to listen to the advice of most administrators after 45 minutes in the classroom, although some could remember some of the offered advice.

In addition to the interesting talk about existing practice, a good number of important elements in tenured teacher evaluation were identified. These elements are listed in the Chittenden and Jones report and still serve as the basis for our current reconsideration of the process for evaluating tenured teachers in the system. They include the following:

- A shared vision about teaching and learning including a good job description for the next century
- A shared concept about assessment instruments, who uses them and for what purpose
- Collaboration among all parties to the evaluation, including the supervisor, administrator (if different) and peers
- A set of procedures that include some choices on the part of the teacher and perhaps choices on the part of the system
- A time line which has regular review points to keep people focused on the task but which may not be constrained by a single year's work. The

supervision process may include cycles over several years, making time questions one of the options for teachers and administrators.

- A system which is totally tied to its purpose--to help tenured teachers become accomplished at their craft so that all their students flourish in the schools. That is, the evaluation system must be part of the staff development system.

So here we are, asking difficult questions that were raised by the experience of the National Board but went far beyond it. Not even national certification asks for evidence that all the children actually learned. Can we connect teaching, learning, and staff development?

There are committees in South Brunswick trying to build these relationships now. The local elected council of teachers, called the Instructional Council, is in the midst of developing a job description. They have begun with the five National Board propositions and have asked themselves how they would know if they were present. They have added a proposition that is not included on the Board's list and have a preliminary list of specifics that is unique to South Brunswick but looks a good deal like the literature about teaching and learning. It will take us a year to refine the list.

The procedural committee has the harder task. It is looking at the issues of evidence, options and timelines. It is considering whether student ratings and peer ratings are important components of teacher self-evaluation and whether self-evaluation is as important, more important or less important than a supervisor's rating. Finally, this committee is considering what should be done about the issue of student achievement in the context of evaluation.

Time will tell what has been wrought by our initial decision to work with The National Board for Professional Teaching Standards. The outside agency, however, has done its task. We are focused on new ideas.

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AN OBSERVATIONAL STUDY OF NATIONAL BOARD CANDIDATES AS THEY PROGRESS THROUGH THE CERTIFICATION PROCESS

Edward Chittenden
Jacqueline Jones
Educational Testing Service
Princeton, NJ

The South Brunswick National Board Project was a collaborative effort involving teachers and administrators from the South Brunswick, New Jersey school district, and research staff from Educational Testing Service. The four-year project, supported by the Dodge Foundation and the National Board for Professional Teaching Standards, offered the district and its teachers an opportunity to participate in the initial certification field tests and to provide feedback to the Board.

This report attempts to identify those components of the certification experience that seemed most critical to enhancing teachers' professional knowledge. Since a major goal of the National Board has been to design an assessment process that promotes professional growth, the experiences of the South Brunswick participants have implications for the assessment's consequential validity with respect to teacher development.

South Brunswick, NJ

The South Brunswick school system serves a suburban community in which income levels range from modest to affluent. There are seven elementary schools, an intermediate school, and a high school. The total enrollment in the district is almost 5,500: approximately 10% of the students are African American, 5% Latino, and 15% Asian American. There are 440 full time teaching staff including special education teachers. South Brunswick was selected as a National Board field test site because of its history of supporting teacher involvement with new forms of assessment. Over the past decade, the district has undertaken several major performance assessment initiatives that have involved teachers at every step of development and implementation. Teachers, therefore, have had substantial experience with models of student assessment that use complex tasks and work samples as evidence of competence. Thus the idea of using portfolios as a way of documenting accomplishments, a critical component in the National Board's certification approach, was not new to the district's teachers. What was new, however, was the adaptation of such assessment methods for evaluating and informing the teachers' own professional work.

The Field Tests

A total of 18 teachers from South Brunswick completed the certification process in three of the National Board's field tests: eight for Early Adolescence/Generalist; two for Early Adolescence/ English Language Arts; and eight for Early Childhood/ Generalist. This paper will confine its discussion to the experiences of the Early Adolescence/Generalist and Early Adolescence/ English Language Arts candidates. With respect to certification itself, it is important to note that the district has consistently stressed the professional

development value of the certification process over passing the test. South Brunswick has viewed the certification process as a significant opportunity that could promote teachers' reflection and critical analysis of instruction and learning. In the words of Willa Spicer, Assistant Superintendent for Curriculum and Instruction, "The school system wants to support the *process* of preparing for certification. This is the important part. The system is not tied into rewards for actual certification." This view is consistent with the district's more general position that the development of teachers is the key to school improvement and to student success.

Early Adolescence/Generalist and Early Adolescence/ English Language Arts
For most teachers in the two Early Adolescence groups, participation in the field tests spanned a three-year period from 1992 to 1995. During the first year they met as a support group to examine their practice in light of the Board's standards and propositions; during the second year they prepared portfolios and attended the assessment centers. In the third year, they received the results of the assessment and participated in a series of meetings to evaluate the overall experience.

Data Sources
Plans for project documentation had to be flexible, in order to respond to the vicissitudes of school-based participation in a national project that was in the process of inventing itself. Three types of data were collected during the course of the project: notes or transcripts of meetings, teachers' written reflections or comments, and individual interviews.

Records of Meetings: The teachers' support group meetings were documented by ETS staff and project coordinators. In some cases meetings were audiotaped, and transcripts were made of the proceedings.

Written Comments: At the beginning of their participation all teachers were asked to write about what they hoped to gain from the project as well as to express their concerns. And, at different points in the project, teachers were asked to react, in writing, to selected questions. Teachers prepared written statements for public occasions such as the presentation to the District's School Committee. Other documents include anecdotal notes in journals or logs maintained by the South Brunswick staff.

Individual Interviews: ETS staff conducted individual interviews with candidates in the beginning, middle, and conclusion of the project. Interviews were standard to the extent that certain key questions were raised at specific points in the process. However, since most questions were open ended, each interview followed a somewhat different course. [See Appendix.]

The Early Adolescence/Generalist Candidates: Year I
Teachers who were eligible for the Early Adolescence/Generalist certificate were invited to submit letters of application stating why they would like to participate in the project and how they felt it would help them professionally. [Note: teachers applying for the ELA certificate entered the project at a later date.] The project was described as an

opportunity to investigate issues surrounding the definition of accomplished teaching and to participate in the initial stages of a national undertaking.

There were several themes in the teachers' applications that suggest something about their motivation at that time. Many were attracted to the idea that the project, like the National Board itself, proposed that experienced teachers should play a central role in examining and clarifying standards for good teaching. There was also a sense that they would like to participate in and contribute to a project with national significance to the profession. And all teachers welcomed the chance to meet with colleagues around matters that would help them gain a broader perspective on their own practice. The following excerpts are from three different letters of application:

> Working on this project would give me the opportunity to reflect on my craft, which is vital in any profession, but difficult to achieve in teaching given the constraints of a daily teaching schedule along with other responsibilities. This project would force me to do so. Without reflection there is the danger of a job becoming just a job!
>
> This grant is not only an opportunity for us to assess what we are doing but to make a statement regarding what we feel is excellence in teaching and to make an impact on future members of our profession.
>
> The opportunity to work with professionals in an experiment to collect and analyze data on student and teacher performance feels to me to be the next step in my own ongoing practice of reflection-development-change-and-growth.

Nine teachers from six different schools agreed to participate. The project was officially launched in October 1992 with a working conference that involved the teachers, their principals, district administrators, ETS staff, and a representative from the National Board.

Using the Standards and Propositions

The National Board's propositions and standards for accomplished teaching provide the essential framework for the assessment. In formulating the standards, the Board has attempted to identify and delineate important facets of teaching without fragmenting teaching into component parts. While each standard points up a distinctive dimension of teaching, the standards are not meant to be interpreted as a list of isolated skills. Rather there has been an attempt to honor the complexity of teaching while clarifying its component requirements. For teachers, the standards are the Board's response to the question, What does accomplished teaching entail? They are meant to provide teachers with a sense of direction for compiling their portfolios or preparing for assessment center exercises. They are also intended to help teachers reflect on their practice by serving as a framework or template for examining professional experience.

During the first year of the project, the only materials available from the Board were the Board's statement of five core propositions, *What Teachers Should Know And Be Able To Do,*[1] and first drafts of the standards for certificate areas of EAGen or ELA. [See

[1]National Board for Professional Teaching Standards. What Teachers Should Know And Be Able To Do. Washington, DC.

Appendix.] Other significant documents, such as the specifications for teacher portfolios or descriptions of assessment center exercises, were not yet developed and would not be available until the following year.

In retrospect, the fact that the portfolio's specifications were not initially available, allowed the group some "space" in which to examine their practice within the context of the Board's propositions and standards. They were allowed to "play around" with the framework. Although the teachers knew that they would eventually be putting portfolios together and submitting evidence of their work for evaluation, the lack of specific materials related to those challenges meant that sustained attention could be given to the framework and to re-examination of their practice.

A support group,[2] which met at monthly intervals, provided the structure for the group's activities. It constituted a setting for discussions. It was also intended to serve as a stimulus for the teachers' investigations, in which they could test the framework against the data of their professional work. The teachers' initial questions concerned the adequacy of the standards as a framework. Was the framework valid from their point of view, as experienced teachers? Did it address the important dimensions of teaching? Some teachers were initially concerned that a list of eleven fairly specific standards would make teaching seem fragmented. To respond to these and other questions they agreed to apply the standards to their practice in quite specific ways. They asked, in effect, What do the standards *look like* in my school or classroom? Having posed that question, the teachers collected documents or other forms of evidence from their classrooms such as samples of student work, teachers' logs, video clips, lesson plans, and instructional materials. The group reviewed the documents to determine what they implied about the standards; what they demonstrated about the teacher's practice or about the teacher's critical understanding of practice. In this way, the support group's analysis was grounded in artifacts of school and classroom life. These investigations consistently brought out the fact that several standards could be integrated within a given lesson or set of documents.

Year II: Preparing The Portfolio

While the first year was characterized by a deliberative and reflective pace, the second year was marked by intensive, sometimes frantic efforts. Two major tasks needed to be completed within a relatively short time period: (1) preparation and submission of the portfolios, and (2) attendance at the Assessment Center.

Year two began with some changes in the composition of the participating teachers. Two additional candidates for the Early Adolescence/Generalist certificate joined the group, and three members of the original group dropped out of the project; one for health-related reasons and two because they had serious reservations about whether the time they would need to put into the assessment would be worth the effort. In addition, two new

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[2] The budget for support groups included a stipend for the coordinators, reimbursement for substitute teacher time, materials such as video tapes, miscellaneous expenses for meetings, and honoraria for teacher end-of-year narratives. Costs were met through a combination of funds from the grant and in-kind contribution from the district.

English Language Arts candidates joined the group. This resulted in a group of eight Early Adolescence/Generalist and two English Language Arts candidates who completed the next phase of the project. Over the next five months the group met every three or four weeks, with part of the day scheduled for discussions and part of the day set aside for individual work on various pieces of the portfolio or preparation for the assessment center. Most candidates attended most of the meetings.

The teacher portfolio is a centerpiece of the National Board's assessment. It is designed to offer teachers an opportunity to document the nature of their practice and to demonstrate their ability to analyze and reflect upon that practice in light of the Board's standards. In that sense, the actual classroom documents that are gathered or developed for the portfolio, such as videotape clips, student work samples, and artifacts of lessons, serve two purposes. They provide direct evidence of the teacher's daily work, and they comprise the raw materials that the teachers refer to in their written analyses and descriptions.

As the following quote from the Board's guide indicates, teachers were encouraged to think of the portfolio as a vehicle for compiling evidence that is typical or representative of their practice. The portfolio is not supposed to be a collection of best work but rather a set of documents that provides a picture of the teacher's ongoing work and abilities to reflect on that work.

> **These exercises are designed to help you organize and present materials and experiences that are representative of your everyday practice. Do not feel that you need to develop special teaching and learning activities for these exercises. Because teaching is not always a neat and tidy process and does not always happen according to plan, everything you submit as part of this portfolio does not need to reflect "perfect" teaching and learning. However, it is important that you recognize successes and setbacks, deal with them effectively, and learn from both.** [3]

The portfolio requirements for the Early Adolescence/Generalist group were organized around three major components:

Professional Development and Service. Overview of professional career, highlighting impact on classroom practice and contribution to school and profession.

Teaching and Learning. Description [including videos and work samples] and analysis of a selected period of instruction, spanning three weeks or more.

Analyzing your lesson. An account and an analysis of a single lesson, with an unedited videotape of 30--45 minutes of instruction.

For the South Brunswick teachers, the preparation of the portfolio constituted a major undertaking. Although they brought considerable experience in the use of performance

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[3] From: Introduction to the School Site Portfolio. Early Adolescence/Generalist Certification. (Draft 1993) National Board for Professional Teaching Standards

assessments for evaluating student achievement, the idea of demonstrating their own accomplishments through a portfolio turned assessment in a new direction. The task of putting together the portfolio was challenging on several levels. First, the substance and scope of the portfolio required collection of a wide variety of documents to serve as primary forms of evidence. It also called for extensive writing to set the context for the documents and to demonstrate the teacher's abilities to analyze practice and to formulate goals. Portfolio preparation and completion took place within a relatively short time frame, from October 1993 through mid-January 1994.

At another level teachers struggled with questions about the Board's expectations and the criteria for evaluation. What would assessors be looking for in the documents? How would the portfolio be scored? What would be the criteria? Although the manuals for the Teacher Portfolio emphasized the standards as the framework for evaluating accomplishments, the teachers nevertheless had difficulty figuring out how this expectation would be translated into an assessment.

Support group meetings. It was clear from the very first meeting of the support group that the pace and tone of work for the second year of the project would be quite different from the preceding year. The teachers had just received the portfolio specifications from the Board. Given the scope of the work, they felt that they should have received the materials much earlier in order to adequately plan their activities. In addition, they found the guidelines to be confusing and poorly organized, which added to the pressures. Considerable time was spent trying to figure out what was actually required by the "School Site Portfolio." The teacher who served as coordinator for the group frequently contacted the Board's staff liaison for assistance and tried to help the group move beyond technical details to the substance of the work. The following notes from the coordinator's log for the first meeting are indicative:

> There seems to be a real level of anxiety surrounding what is expected. Although I tried to give an overview of what is included in each booklet I am not sure it helped very much. The people who are new to the process expressed the concern that they are at a disadvantage because they were not part of last year's project. Interestingly enough the people from last year stated that they don't think last year helped them to prepare for what they received in the mail!! [the guide to the portfolio]

The group attempted to formulate a common work schedule so that teachers would be, more or less, at the same point in the process of writing and collecting documents. In this way they could react to each others efforts and learn more from the prooess. For example, the narrative for the *Teaching and Learning* sequence was singled out as an especially critical and challenging piece of writing. The narrative had to be both descriptive and analytic. There was an agreement that drafts of the narrative would be prepared and shared in certain meetings. But for the most part, this plan for sharing documents did not work out. The time frame and the pressures to complete the portfolio by mid-January mitigated against that. There was little opportunity for teachers to read and respond to drafts of their colleague's narratives or to view their video tape selections. Instead, collegial support took the form of helping each other with procedural or technical matters, such as managing the video requirements, organizing the materials, etc.

Another factor that made it difficult for teachers to interact over the substance of their efforts stemmed from their differing styles of work. For example, when teachers reported on their progress at a meeting in early December, some had completed much of their narrative, at least in first draft, while others were still "thinking about it." And some had completed most of the video work for *Analyzing your Lesson* while others had not yet selected a lesson.

What do they want to see?

As the work progressed, the question of the portfolio's evaluation became more salient. In the support group meetings there was a gradual shift from a stance of "What do I want to show them?" to "What do they want to see?" Teachers had to remind themselves that the evidence the Board was looking for would be found in their analysis and commentary about the documents -- that accomplished teaching is not self-evident in the video tapes or other artifacts. In one of the meetings a teacher remarked, "It's not the lesson... it's how you analyze the lesson that they're interested in." They also knew in a general way that the Board's standards provide the template for evaluation of the portfolio's components, but this did not answer the question of how to connect the two.

Evaluation of Portfolio Development Process

Interviews were conducted with teachers shortly after they had completed their portfolio packages and sent them to the National Board. As part of the interview they were asked to discuss the aspects of the portfolio process that they had found most productive or beneficial. And as a corollary, they were asked to comment on the problems.

Benefits From Portfolio Development

There were some clear differences among the teachers concerning which pieces had been most worthwhile. For example, for some teachers the work with videotape was rewarding, while for others it had been an exercise in frustration. Some singled out the benefits that came from reviewing their personal history of professional activities, in response to the component on professional development and service. For many, the extensive writing requirements were seen as sometimes onerous, yet sometimes informing.

Several of the teachers specifically noted the value of the work with video. One commented on how she had to explain to the students that she -- not the students -- was the real subject of the video work. This in turn helped students understand that teachers are also learners, and that they too are evaluated. And, because parental permissions were required, the video piece generally made the project more visible to her community. Another teacher talked about the value of observing the children's reactions on the tapes, of being able to see evidence of learning in the vignettes. And others commented on things they noticed about themselves.

> [Re: Video]. Little things, they were not particularly pleasant to watch, for instance when I viewed a videotape I saw that I had cut a child off . . . .. He had more to say and I was thinking "I've got to finish this tape while my time is running," regardless of what the reason is, it made me want to think I won't do this anymore. Also, I say "okay" at least a million and six times for every one of my lessons, when I'm in the middle of saying it now I realize it, and that's something that is important for me to know as a teacher that I have to change because it's

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> monotonous listening to somebody that does that. Or "um", it's the same thing. In that regard, by watching myself, I got to fix things and be more aware of things that I did with children. It affirmed a lot of things in myself that I believed were positive when I actually got to see.

Others stressed the value of documenting a period of instruction, and the requirement of reflecting on and writing about that component of their curriculum. One teacher described how such analysis made it possible to *see* the children's learning through videos and other artifacts. She also talked about ways in which the task made her become much more conscious about planning, and more explicit about the decisions she made.

> I had to be overly prepared, prepare more than I thought I even needed to prepare. It had to have a sequence, it had to have a scope, it had to give all the segments of "good teaching." I found that, I guess because I've been teaching either so long or too long, I don't know which, that I've gotten away from it.

Three of the teachers singled out the Professional Development and Service component of the portfolio as particularly valuable. The component asked teachers to review and describe what they had done by way of professional development and service, and to provide an account of how these accomplishments had made an impact on their practice and their professional community. The teachers commented on how this component helped them take stock of where they had been and where they were headed. The fact that the task involved more than updating a resume was important; it asked teachers to evaluate what their experiences meant for their practice.

> I think the reflection, sitting down and thinking about my 22 years of teaching. That was incredible. Yes, I think it's beneficial, I feel more than ever skeptical about the direction our educational systems are going in because as I did the writing, as I look over all the years of teaching, as I got these letters from different people, it became very, very clear to me what my priorities as an educator are.

<u>Problems With Portfolio Development</u>

Two practical problems associated with portfolio development were commented upon by all teachers. One concerned the time frame. The dates from early October through mid-January, spanning holidays, meant in effect that teachers did not have much room to select their "period of instruction" for the *Teaching and Learning* sequence. The duration of the instructional period had to be at least three weeks. Moreover, most teachers felt that they should have received the portfolio specifications at a much earlier date, perhaps the previous summer or even the year before; this would have given them time to plan and identify those aspects of their program that they might feature in the teaching and learning segment. From their vantage point, this was a nontrivial matter.

The other problem stemmed from the teachers' difficulties in interpreting the guidelines for the portfolio's specifications. They found the first drafts of the manuals to be poorly written and unnecessarily confusing. They attributed this partly to the fact that they were participating in the very first field test. The delays in getting materials and the draft quality of those materials suggested to them that the Board and its subcontractors were but a few steps ahead of the candidates. There was also the larger concern about the

Board's expectations for the portfolio. How would the documents be evaluated? What would be the criteria? As one teacher expressed it:

> I'm also wondering if they are clear on their goals. It's kind of a scary thing when you're doing that to not know if they know what the goals are. If the goals are clearer, I think that the instructions will be clearer as well. Maybe if they are bulleted in some way, not so wordy.

In interviews conducted just after the portfolios had been sent to the Board, teachers elaborated upon another issue that may reflect a fundamental tension in portfolio assessment. This is the dilemma of, *What do I want to show them?* vs. *What do they need to see*? One talked about the difficulty of maintaining her voice in the narrative while attending to the standards and keeping within the boundaries of the exercise. It was not sufficient, in this teacher's view to simply and directly tell the story. Rather, the assessment required a more analytic approach, one that would take into account the need for evidence expected by the standards. However they handled it, the teachers generally accepted this tension as inevitable to the assessment. But one teacher also saw its potential as a fundamental flaw in the whole assessment model. In sum, all teachers found aspects of the portfolio experience valuable and informing. Although all voiced complaints and expressed misgivings about the task, in one way or another, putting together documents from their professional life helped the teachers focus on their professional experience.

The Assessment Center

In March 1994, teachers participated in a two-day Assessment Center assessment. Candidates responded to four central tasks, each of several hours duration. For Early Adolescence Generalists teachers these tasks consisted of:

> *Exploring Curriculum Issues:* Participate in a group discussion of a particular curriculum area followed by written analysis and synthesis of the information.
>
> *Instructional Analysis:* Write critical analysis of a 6th grade teacher's instructional practices in mathematics [videos and logs].
>
> *Instructional Resources:* Evaluate strengths and weaknesses of an interactive computer simulation [SimCity] as a learning tool for young adolescents.
>
> *Interpreting Content:* Demonstrate content and pedagogical knowledge for a series of three tasks pertinent to middle grades curriculum.

The support group sponsored several meetings in preparation for the Assessment Center. In one session, they examined the curriculum materials -- SimCity computer simulation -- provided by the Board. In other sessions, teachers met with curriculum specialists in the district on such issues as curriculum integration of mathematics, and core concepts within selected areas of science and social studies.

Immediately following the Assessment Center exercises, a "debriefing" meeting was held in which the teachers talked about and evaluated their experiences. Several themes emerged in the teachers' remarks, and accounted for most of their analysis. Concerning the assessment process itself, there was much dissatisfaction with the way the exercises were administered and with the primary dependence upon written responses. Aside from the fatigue factor of writing over two full days, the teachers pointed out that an evaluation which is dependent upon one mode of responding was inconsistent with good assessment practices.

> Here we are assessing ourselves based on the Board's wonderful standards, but those standards were out the window for us. Here I am writing about "multiple pathways to knowledge," and everything we were doing was assessed by a writing kind of thing.

They also found the "writing-by-hand" mode was out of touch with the current world of word processing. And, although some exercises involved group discussions, most of the tasks were answered in isolation. Yet, as the teachers pointed out, professional development as portrayed by the Board's core propositions emphasizes the vital role of colleagues, who learn from one another. Despite their criticisms of the assessment procedures, the teachers found the substance of the exercises to be appropriately demanding for the most part. As evidence of this, they felt that it would be difficult for a person with little teaching experience to adequately deal with the questions.

The most persistent theme however had to do with matters of scoring. What would the assessors' be looking for? and What are their qualifications? Their comments on this aspect of the experience picked up on similar concerns expressed in connection with submitting the portfolio. There was some discussion of different types of written responses. Do you write directly from personal experience and then hope that you have somehow covered the points "they are looking for," or do you write more analytically in response to what you presume are the scorer's expectations? In several ways, the teachers expressed concern about having participated in an evaluation where they had little information about the assessment's criteria, as manifest in a scale or rubric. There was the sense again that they had participated in a field test, and, therefore, they should not become personally too invested in the outcome. If they do not pass, what does that say about the validity of the assessment? What does it say about their own achievements as a teacher?

Comparing Years I and II

The project had offered a group of the Early Adolescence teachers two, qualitatively distinct phases of participation in the National Board assessment. The first phase of Year I, which might be labeled "reflective critique of practice," prompted the teachers -- in the company of colleagues -- to closely examine their professional life through the lens of the Board's standards and propositions. In contrast, the second phase of Year II, which might be labeled "substantiation of practice," asked teachers to document their accomplishments in ways that could be credibly assessed by others. This two-phase model of participation emerged partly through planning and partly through historical accident associated with the Board's preparation of materials. In effect, the two phases

reflect the National Board's dual goals for an assessment process that [a] constitutes a significant professional development experience for the participants and [b] serves as a credible assessment of their accomplishments. The first year accentuated the former and the second year, the latter.

In interviews conducted in the second year, teachers were asked to compare and contrast the two sets of experiences. In one way or another, all teachers talked about the project's shift from an emphasis upon self-evaluation with peers to an assessment that entailed preparation for external evaluation. And all commented about the change in pace, from a deliberative to a more intense and time-constrained pattern.

For some, the contrast between the two years was sharp and dramatic. The fact that the project, in their view, had become a "test" meant that the work had become less authentic, less linked to their own needs for professional growth and more directly shaped by the external expectations of the assessment. Two teachers dropped out shortly after they had begun their work on the portfolio. While they cited "time" as one key reason, another was the shift in tone of the project.

> Q: Why did you drop out?
> A: Time. I had the idea that we had six months to complete these requirements. And then we had less than three months . . . But it also stopped being an intellectual exercise. Last year was a meeting of my colleagues, and it was like discovering what my colleagues are doing and what it is we do best. . . But now, it was a test. And it just wasn't a priority with me anymore. It just didn't mean that much. I was confident that I could do all of the requirements. . . . . It just, in the balance of things to me, it went from being number six on the list to number 38... Let's leave the time factor aside. Even more important to me was the tone of the project, more than anything else.

Another teacher, who persisted with the project, also painted a picture of sharp contrast. For this teacher, the standards were valid and challenging -- and the work of the first year worthwhile. But the demands of putting together the portfolio and preparing for the assessment center seemed to overwhelm whatever was valuable in the process.

> Last year was interesting. I liked the standards themselves; I think they're actually written well. They suffer from redundancy, you know, and their idealism! After you read all these adjectives about what the teacher's supposed to be, you have a headache. But they do it. They're really balanced standards. And I felt, "Listen, these are the toughest standards that anybody could put out, but you know what? I think I can match them."

Most of the candidates however, when comparing the two years, talked about ways in which the experiences were related, although quite different. While they characterized the first year in more positive terms, describing it as more enjoyable, less stressful, more collegial -- they also talked about ways in which their work on the portfolio and assessment center was based on what was learned in the first year. Several singled out the continuing importance of their study of the standards.

> Last year I felt a little less stressed, the pace was different, I think it was more enjoyable, it was more of a sharing time. This year it was more stressful, even at the meetings I felt more stressed even with the other teachers -- it was somewhat good, but there was more tension, anxiety. [Why was that?] Deadlines, the fine lines that people were not sure of, how things were working, four

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> different books to work from and coordinating from four different books, there was a lot of jumping around. Also, in the middle of doing all of this you have to keep up with the regular school work.

Work with colleagues was important in both years, but teachers noted that their efforts were more "task oriented" and, hence, less reflective during the second year. Some attributed this to the change in expectations. Others, again stressed the lack of time as the key factor. Despite the drawbacks of Year II, most teachers noted some benefits, as described above. And two teachers described what they saw as a complementary relationship between the reflection on standards and putting together the records of their practice. For them, the requirement of documenting and demonstrating their accomplishments through the portfolio brought the standards to life.

Receiving the Scores

Candidates for the Early Adolescence/Generalist certificate received their score reports in late December 1994, informing them of whether they had been certified. [Note: Scoring for Early Adolescence Language Arts was not completed until the following year.] The reports indicated the candidate's ratings for each of the three portfolios components and for the four Assessment Center exercises. Ratings were based on a four-point scale, ranging from Level IV (Exceeds expectations for the exercise) to Level I (Did not meet expectations). The reports were also accompanied by an interpretive guide with "illustrative summaries" that depicted the different ways in which a candidate's response might meet criteria for a particular level. The guide was intended to help candidates understand the criteria by which their responses were judged.

While the assessment's results had long been anticipated by the teachers, they were not prepared for the score's impact upon their feelings about the whole process. A meeting was convened in January 1995 to bring the teachers together and to allow them the chance to share reactions to the assessment's outcomes. For most candidates, this was the first occasion to openly discuss their own ratings as well as learn results for their colleagues; it was an intensely emotional meeting. Since many had worked closely together, while reviewing their practice, preparing portfolios, and attending the assessment center, it was very hard to accept an outcome that designated some of them as "accomplished" and others as not. It seemed to violate the collegial spirit of the project to that point. One of the teachers who received Board certification described it as a "bitter victory."

The central problem for the teachers was how to interpret the result of "not passing." While there were congratulations for the successful candidates along with an understanding of what it took to obtain high ratings, the teachers were not willing to accept the implication that unsuccessful candidates were not less accomplished. For some, this result flew in the face of what they professed to know of their colleague's practice. If those who pass are deemed "accomplished," does it mean that those who fail are deficient? And regardless of how the teachers themselves may come to grips with this question, how would results be interpreted by parents? administrators? colleagues?

In an interview conducted some months after the score reports, a teacher reflected upon her reactions to the outcome.

> Well, I guess we've talked about that quite a bit. Even though the focus was supposed to be on the process you can't help but know that there is an ending to it, otherwise you wouldn't do it. And a part of the process is the final piece. And I guess you can say that was pretty devastating. My questions kept going back to what have they known about the way I taught and with the results, how much of those results do I take? how do I interpret the results? I guess that was the biggest problem. At this point, I know that I teach well, I've heard it from my colleagues, and I look at the results of the kids and that's really where I get my feedback from.

Teachers were also quite dissatisfied with what they described as the "generic" nature of the score reports. They had anticipated feedback that would somehow be more particular to their performance. The four-point ratings scale and the illustrative summaries of what those ratings represent, seemed "canned" and nonspecific. One teacher characterized the summaries as "insulting." The information value of the score reports seemed meager, impersonal, and not commensurate with the magnitude of the documentation required by the assessment. As the following comment indicates, teachers were not always able to evaluate their performance in light of the reports.

> I guess the worst part was getting your results back and having the feedback not be related to your specific strengths and weaknesses. I wasn't devastated that I hadn't passed. What I was upset about was I felt I had no positive strokes and no negative, I was just left floundering, I never came to closure on it because there was no feedback specifically for me. I didn't know whether I had done well other than this score, it still didn't tell me specifically and it made no suggestions on how to better myself.

Another wondered how it was possible to obtain the highest rating on one component and the lowest on another, when the two were integrally related. "How," the teacher asked, could one be excellent in *Instructional Analysis* and yet apparently deficient in *Analyzing Your Lesson?*

> In terms of my own, the scores that they gave me back, I'm pretty much in agreement with what they said. I'm not quite sure why I got a 4 in Instructional Analysis. I mean, I thought it was pretty good - I'm not quite sure why it was a 4 as opposed to a 3, but I'm not going to argue. . . But the 1 I'm really totally distressed about, because 1 means defective or something, that wasn't the word but ... I don't believe that's accurate particularly in light of the fact that in Instructional Analysis I had a 4, that analyzing my lesson could be a 1?

Evaluating The Overall Experience

Follow up meetings and interviews were conducted with Early Adolescence teachers who had completed the 1993-1994 field test. Teachers were interviewed in the Spring of 1995, shortly after they had received results, and again in the Spring of 1996, after some time had elapsed and there was some distance from the experience. Teachers' comments on these follow up occasions concerning benefits and issues were consistent with their earlier evaluations. The importance of working with colleagues continued to be stressed. To this end, some noted that they very much missed the regular meetings of the group; they felt a loss of momentum. Most, as discussed below, talked of the continuing influence of the Board's framework and standards on how they looked at their teaching.

Teachers who had received Board certification expressed uncertainty about what it meant for their professional life, beyond the classroom. There was a sense of "what's next?" Several had been sought out to make presentations or otherwise share their expertise as accomplished teachers. While they welcomed such recognition, they were, as one said, "still the same person I was before." The fact of the certificate, they pointed out, had not made them accomplished, although it did serve to recognize such achievement.

Those who were not certified continued to wonder what that result meant. Some thought about ways they could have presented themselves differently and speculated that they might re-apply for certification. For others, it was a matter of moving ahead with their work on the assumption that the most valid assessments are local -- from students, parents, and colleagues.

All teachers, certified or not, commented upon the way in which the assessment process had influenced, and continued to influence, their professional work. When discussing the 'impact' of the experience or its 'productive aspects,' teachers consistently placed primary emphasis upon its effects upon their thinking or their perspective. Only secondarily did they talk about ensuing changes in their classroom practices. The general sense of their remarks is that the assessment helped them become more aware of what they do and why they do it. For example, they talked about seeing new connections within their teaching, and becoming more conscious of the grounds for their instructional decisions. Several described the assessment as "affirming" or "validating" what they believed, noting that it helped them become clearer about their philosophy, and more articulate regarding the assumptions that shaped their instruction. In essence, they were saying that there were no major changes in everyday practice, but rather important modifications in how they understood what they did and why.

> It's not that I learned so much that was new, but I did become aware of my objectives. The process helped me to become more thorough and more focused in my planning and self assessment.
>
> or
>
> I find the standards giving me the energy and desire to plan better. Whether or not you see it in the classroom, I don't know. I'm not sure I even care, because I'd like to think that twelve years ago I was a good teacher too.

Some were explicit in stating that the experience had helped them move to a new level of professional competence; it had pushed them to become more reflective and analytic, less intuitive.

> I have a more refined perspective. I am now going to graduate school, and the Board's standards are part of my thinking. The process, the propositions and the standards continue to give me a focus at a real conscious level. I ask myself questions such as, Have I really addressed the needs of the kids? Have I integrated the curriculum? It gives me something to check my practice against. It got me off an automatic mode as an experienced teacher. A lot of who I am is instinctive, intuitive, like operating with a blindfold. But it made me realize I have to be more scientific. It took some of the mystery out of teaching.
>
> or
>
> You also internalize the whole process, when you live with it four or five months you do so much reflection that you can't help but the following year to do even more reflection and to analyze your

> own style and what works and what doesn't work in a more thorough manner, rather than superficially, which I know I did in the past compared to the way I do it now.

Teachers also offered specific examples of ways in which their work with the standards and the portfolio had expanded their definition of teaching. For example, one teacher felt that the project had irreversibly extended her view of teaching with the realization that professional work is not just what goes on in the classroom but within the community of educators. Putting together the portfolio piece on professional service had been particularly informing.

> Before, what I considered my practice was what I did with the kids in the classroom. That was *my* practice. Now, it extends far beyond that. . . . It's my professional *life*, not just what I do in the classroom.

Two talked about changes in their assumptions about children's capabilities. One noted that she was more inclined to encourage children to reflect on what they were doing, and more apt to ask them "Why are we doing this?" According to her, this was not a new element in her teaching but one that "now gets more focus." Another teacher talked about observing children and acquiring a better appreciation of what they learn through projects and open ended activities.

> I now can see kids teaching one another. I no longer feel that all kids need to end up at exactly the same place. The National Board said, "it's OK to let loose," and I now more fully accept this. There is no such thing as a perfect lesson.

Another teacher described an example, from current practice, to illustrate the framework's continuing influence on evaluating everyday classroom happenings.

> Q: Do you do anything differently in your classroom?
> A: Things aren't done differently, just with more intensity. The standards were not revelatory, but just intensified what I was doing. I began to value more what I had been doing in the classroom. Recently, for example, I was having a difficult time with two students and I realized that there was no place in the standards for an *angry* accomplished teacher. So I began to think more about what I know of students at their age and what their needs appear to be.

In sum, for these experienced teachers the consequences of the assessment experience were not pronounced changes in classroom behavior or teaching style. Teachers did not take on new teaching personae or curricula. Instead, the consequences had more to do with an awareness of the assumptions that shape daily decisions and with the teachers' capacities to evaluate -- and ultimately to modify -- what they are doing. While specific modifications in instruction were sometimes noted, these were described as growing out of a larger sense of what they were doing.

There was another way in which the Board's framework continued to be important. Quite aside from its value in helping teachers look at practice it was important as external confirmation. For example, a teacher noted that the standards for English Language Arts supported some newer approaches to writing instruction, and in that sense gave legitimacy to instructional practices that challenged traditional methods within the school.

> I think one of the things for me first of all was ... there was a lot of confirmation ... especially within my building, in my area where there is sometimes controversy on how we do things. ... especially where incorporating literature into writing.

The vision of teaching embodied in the standards and the portfolio emanates from a national effort; it, therefore, could serve to validate local work. Most of the teachers commented on this dimension of the assessment at some point in the project. In their view the framework affirmed the complexity and challenge of their profession. It was the sort of affirmation that many found especially timely.

> Reading through the standards is very energizing, when you hear all this crap on the TV [about teaching] and even from other teachers ... [that] education is such a mess. You hear this stuff and then you read the standards ... and you realize what a difficult profession this is and the qualities you have to hold.

Comment

The challenge for the National Board is to design a process for reviewing teaching practice that constitutes a significant professional development experience for teachers and serves as a credible evaluation of their work. As described in this report, the evaluative comments of teachers who participated in the South Brunswick National Board project indicate very clearly that the process had indeed prompted a serious examination of the assumptions and priorities that guide their work; it had also, for many, resulted in a fresh perspective on what they do and why. At the same time, while the experience had been rewarding it was, perhaps in equal measure, marked by frustrations and uncertainties. Presumably, some of the drawbacks such as the ambiguity of the materials or the awkward timing of the portfolio preparation, stemmed from the field-test status of the assessment. Many of these issues can be remedied in future administrations. However, other issues that teachers identified would appear to be integral to a performance assessment of this type. Central among these is the built-in tension between attempting to reflect on practice while preparing for a test.

Periodically throughout the project the following sort of question was posed: Which aspects or dimensions of the experience appeared essential for professional development? This question was raised with teachers in support group meetings and in interviews, and it constituted a major agenda item for the district-wide meetings that were held toward the project's conclusion. A review of notes from all such sources suggests five themes in the participants' responses. In combination, these themes can be considered the essential components for an assessment process that would link professional growth and evaluation.

> A Framework: There must be an agreed upon vision of what constitutes good teaching, as embodied, in this case, in a set of propositions, standards, or elements of the job description. The framework has to account for the major professional responsibilities. It should help teachers "unpack" their practice, to analyze its parts, while acknowledging that all parts are interrelated. The framework needs to be formulated with sufficient specificity so that -- when taken seriously -- it has heuristic value as a template for critical analysis.

Documentation: The review of practice needs to be grounded in the data from classroom life. In this way, the abstractions of the framework can be tested against tangible documents such as student work, lesson plans, video excerpts of teaching, etc. This can be a two way process. Teachers can begin with documents that are important to them in some way and then proceed to ask which standards are addressed. An alternative path is to "rummage around" in daily practice in search of evidence that speaks to some standards. Documents can be collected over time and organized around the framework, as in portfolios.

Collaboration: Work with colleagues on some systematic basis also seems essential for almost all teachers. In the course of a school year, questions of what constitutes good teaching and how it is exemplified are not ordinarily pursued with colleagues, and in fact may be avoided. Yet these are the central questions of the profession. Collaboration with colleagues makes it possible to understand how evidence of the standards can take different configurations, in different classrooms. Presuming a level of trust, colleagues are a primary source of direct feedback.

Time and pace: A time line, with established points for regular meetings with colleagues, can set the structure for review or documentation of practice. It is not so much the total number of hours as it is the fact that quality time, which can be relied upon, has been set aside and supported. (The actual time that teachers spend thinking about their work cannot be estimated as it is not confined to meetings.) The allocation of time has the effect of keeping review of practice on the teacher's agenda, despite the pressures of teaching that inevitably demand attention. Work can be paced over several months or years, rather than concentrated.

Evaluation: Criteria for the evaluation of teaching need to be commonly understood and linked to the standards. Whether high or low stakes, the evaluation should provide differential feedback, contributing to an understanding of practice. At a local level evaluation represents a point in a cycle of review, and should serve a formative function of helping teachers improve instruction. Using common criteria, self-evaluation and evaluation by others can be compared. Evaluation introduces a tension into the system that can foster attention to the framework and documentation and can ultimately provide some sense of closure.

The two-year assessment experience of the Early Adolescence group demonstrates how these five themes or components may work in combination. The National Board's standards and propositions clearly provided a sense of direction for documentation of practice; in the first year, the nature of documentation was controlled by teachers, and in the second year by the portfolio requirements. The importance of collaboration and the value of a reasonable pace of work were also evident, especially during the first year. The relationship of Evaluation to the other components remains equivocal. The fact of evaluation -- that portfolios and exercises are to be rated -- introduces a tension into the system, which is productive to the extent that it prompts serious attention to the

standards and to the explication of practice. But on the other hand, the concern for evaluation can begin to drive the whole effort away from reflection and self-criticism toward a stance of preparing for a test and figuring out "what they want." And, to the extent that the evaluation component is seen as competitive, it undercuts the pattern of collaboration with colleagues. Despite the fact that the district had consistently emphasized the value of the process over the outcomes, there was power in the ratings, compounded by the fact that this was an aspect of the assessment that was least understood by teachers.

These and other tensions in an assessment system are not so much problems to be solved as to be addressed. The task would seem to be one of finding a productive balance. The South Brunswick project suggests that one approach could be a two-tiered system, patterned somewhat along the lines of the Early Adolescence group's two-year model. The first tier could include low-stakes evaluation, perhaps conducted by accomplished colleagues, which provides feedback and which leads to a credential that the teacher has completed the process of review and documentation, short of participation in an assessment center. Such a plan would keep evaluation in the system but loosen its hold over the teachers' deliberations and documentation of practice. The second tier, with higher stakes, could become an option with the decision based upon low-stakes feedback from the first tier's work.

In conclusion, the pattern of teacher participation in assessment in South Brunswick was unique, reflecting local policies, traditions and the resources of the project. The district's policy of emphasizing process over outcome, for example, may not hold in other sites. The tradition within South Brunswick of involving teachers in curriculum reform and assessment initiatives is also unusual. The district also had an established working relationship with the ETS staff and has consistently welcomed an outside perspective. And, external funding along with district's contribution meant support for the teachers and teacher coordinators as well as involvement of researchers. Nevertheless, the conditions for supporting teacher development, identified in the course of the project, hold implications for designing other projects at local or national levels that seek to make assessment of experienced professionals a productive venture.

APPENDIX A

Core Propositions of the National Board for Professional Teaching Standards

Early Adolescence/Generalist Standards of the National Board for Professional Teaching Standards

Elements of the South Brunswick Job Description for Classroom Teacher

National Board for Professional Teaching Standards

Core Propositions

Outline

1. ***Teachers are committed to students and their learning.***

2. ***Teachers know the subjects they teach and how to teach those subjects to students.***

3. ***Teachers are responsible for managing and monitoring student learning.***

4. ***Teachers think systematically about their practice and learn from experience.***

5. ***Teachers are members of learning communities***

National Board for Professional Teaching Standards (1994). What Teachers Should Know And Be Able To Do. Washington, DC: Author.

Early Adolescence/Generalist Standards

Outline

I. **Knowledge of Young Adolescents** - Highly accomplished generalists draw on their knowledge of early adolescent development and their relationships with students to understand and foster their students' knowledge, skills, interests, aspirations and values.

II. **Knowledge of Subject Matter** - Highly accomplished generalists draw on their knowledge of subject matter to establish goals and to facilitate student learning within and across the disciplines that comprise the middle grades curriculum.

III. **Instructional Resources** - Highly accomplished generalists select , adapt, create and use rich and varied resources.

IV. **Learning Environment** - Highly accomplished generalists establish a caring, stimulating, inclusive and safe community for learning where students take intellectual risks and work collaboratively.

V. **Meaningful Learning** - Highly accomplished generalists require students to confront, explore and understand important and challenging concepts, topics and issues in purposeful ways.

VI. **Multiple Paths to Knowledge** - Highly accomplished generalists use a variety of approaches to help students build knowledge and strengthen understanding.

VII. **Social Development** - Highly accomplished generalists foster students' self-awareness, self-esteem, character, civic responsibility and respect for diverse individuals and groups.

VIII. **Assessment** - Highly accomplished generalists employ a variety of assessment methods to obtain useful information about student learning and development and to assist students in reflecting on their own progress.

IX. **Reflective Practice** - Highly accomplished generalists regularly analyze, evaluate, and strengthen the effectiveness and quality of their practice.

X. **Family Partnerships** - Highly accomplished generalists work with families to achieve common goals in the education of their children.

XI. **Collaboration with Colleagues** - Highly accomplished generalists work with colleagues to improve schools and to advance knowledge and practice in their field.

National Board for Professional Teaching Standards, (Draft, April 1993), Early Adolescence/Generalists Standards

SOUTH BRUNSWICK JOB DESCRIPTION FOR CLASSROOM TEACHER

OUTLINE

I. **The teacher as planner, instructor and decision maker:**

II. **The teacher as evaluator**

III. **The teacher as record-keeper**

IV. **The teacher as counselor**

V. **The teacher as classroom manager**

VI. **The teacher as member of the school community**

VII. **Participates with administration in the development evaluation and revision of curriculum on a school and district level.**

VIII. **Teachers are a resource for students**

IX. **Teachers participate in the decision and implementation of plans for their own professional growth.**

APPENDIX B

Sample Interview Questions

Questions for Early Adolescence teachers - - Jan/Feb 1994

1. Why are you applying for certification?

2. What have you found most productive, most beneficial, about the whole process?

3. Who has helped you develop the portfolio?

4. What have been major difficulties in developing the portfolio?

5. [If appropriate] How would you compare this year's work on the project with work of last year?

6. Reactions of colleagues [Who are not currently candidates.]
   Are they likely to be interested in applying next year?

7. Thoughts about preparing for next steps - Assessment Center

8. Recommendations for the National Board.

Questions for follow up interviews with Early Childhood candidates -- Fall 1995

1. What were your reasons for participating in the project?

2. Thinking about the entire experience, what have you found most productive, most beneficial?

3. What have you found least productive, least beneficial?

4. Who helped you when you were putting together your portfolio or preparing for the Assessment Center?

5. Were there times when you seriously considered dropping out? Why did you persist?

6. What are your concerns or thoughts at this point in the process?

7. Any recommendations for the National Board?

PROFESSIONAL DEVELOPMENT MATERIALS IN THE CONTEXT OF PROFESSIONAL CERTIFICATION: LESSONS FROM THE FIELD

Cindy Tocci
Educational Testing Service
Princeton, NJ

Background and Purpose

In 1987, the National Board for Professional Teaching Standards (NBPTS) was created as a nonprofit, nonpartisan, nongovernmental organization to establish high and rigorous standards for what accomplished teachers should know and be able to do, to develop and operate a national voluntary system to assess and certify teachers who meet these standards, and to advance related education reforms for the purpose of improving student learning in American schools. There are six certificates now available. They are Early Childhood/Generalist, Middle Childhood/Generalist, Early Adolescence/Generalist, Early Adolescence/English Language Arts, Early Adolescence -Young Adulthood/Art, and Adolescence and Young Adulthood/Mathematics.

During the 1995-96 school year, teachers participated in the National Board's field-based studies of the assessment for teachers of adolescents and young adults in mathematics (AYA/Mathematics) which was developed by Educational Testing Service. The purpose of the field-based studies was to evaluate the design of the assessment and the support materials provided to candidates.

The NBPTS AYA/Mathematics Standards (See Appendix A) articulate what accomplished mathematics teachers should know and be able to do. The challenge was to design an assessment that is flexible enough to capture what a teacher does naturally in the classroom, yet be rigid enough that each entry can be evaluated against the Standards. The assessment that was developed required teachers to complete a school-site portfolio and an one-day assessment center. The assessment center's exercises assess content knowledge and pedagogical content knowledge in the mathematics. The portfolio consists of the following entries:

Analysis of Student Work: Applications -- The teacher chooses one applications assignment/prompt and three student responses to that assignment. The application assignment/prompt demonstrates the teacher's strategies for engaging students in making connections among mathematical concepts or to other contexts and to think and reason mathematically. The students chosen should represent different kinds of challenges to the teacher.

Analysis of Student Work: Assessment -- The teacher chooses one assessment/prompt and three student responses to that assessment that demonstrate the teacher's approach to assessing student learning. The students chosen should represent different kinds of challenges to the teacher.

Instructional Analysis: Whole Class -- The teacher videotapes the whole class as he/she engages the students in active participation and discourse as they explore a

concept, principle, technique and/or reasoning method of mathematics. Any instructional artifacts used by the students are also submitted.

Instructional Analysis: Small Groups -- The teacher videotapes his/her interactions with small groups of students exploring and discussing important mathematics. Any instructional artifacts used by the students are also submitted.

Documented Accomplishments Entry -- Another essential source of evidence about a teacher's practice reflects those aspects of teaching that do not occur in the classroom with students, but in a teacher's interactions with students' families, with the school and local communities, and with colleagues. This entry requires the teacher to submit descriptions and documentation of those activities and accomplishments that illustrate his/her commitment to the families and communities of his/her students and to contributing to the teaching profession.

This paper will focus on the findings for the two entries involving a practitioner to analyze student work.

How We Have Learned

We looked at teaching from a number of accomplished practitioners who taught a variety of mathematical contents and in different contexts to determine the common attributes and methods that constitute accomplished teaching practice. We asked the teachers to provide student work in response to assignments that required students to reason and think mathematically. Furthermore, the teachers were asked to analyze the student work from three of their own students. The students selected were to represent different challenges to the teacher.

What Best Practice Shows

Accomplished practitioners were uniformly identified by certain characteristics:

- the goals for instruction and the student work were clearly stated, appropriate for the students, and shaped by high expectations for student learning.
- there were clear expectations about what a high quality response should look like. These teachers recognized good mathematical thinking and reasoning from students, especially when a student response was considerably less sophisticated than another.
- teachers had a clear sense of how to get students to show their understanding through their work.

<u>Pushing students to reason</u>

Accomplished teachers gave clear and consistent evidence that they knew how to push their students to reason and to think. Their assignments were challenging and thought provoking rather than repetitive and certain. The assignments went beyond having students insert numbers for variables in formulas to having students determine why the formula was appropriate for the context of the problem. The assignments frequently had more than one correct solution process. A teacher might be surprised by the nature of a student response to this type of an assignment and needed to be ready for that surprise. The outstanding teachers had the content knowledge and pedagogical content knowledge to deal with the surprises and were willing to take the risks involved with giving such

assignments. Furthermore, the assignments gave space for responses to explain "how" and not just "what." Students were pushed to go beyond just stating an answer or even a solution process to giving justifications for a process.

Pushing the teacher to reason and make connections through analysis

The outstanding practitioners' readings of the student responses were highly analytical. Inferences about what a student might know, not know, understand, partially understand, misconceive, and simply not "get" were all part of the analysis. Differences among these states of mathematical understanding were carefully and clearly articulated in each analysis.

Furthermore, the accomplished teachers rarely rely on a single student response for their information. They use a variety of prompts to elicit similar and different information. A comparison of the information from these prompts gives the teachers a clearer picture of a student's mathematical understanding. Accomplished teachers also compare the information about mathematical understanding among students. A thorough analysis of an individual's work includes reference to the fact that the student is part of a larger entity, namely the class. Comparing a student's work to others' work gives the teacher additional information to make judgments about the current status of the student's understanding.

The practitioners connected the student responses to the goals for instruction as an evaluation of how well those goals have been met. This was done for individuals as well as for the whole class. They used student work as the most sensitive measure of their accomplishment. They would fashion individual, group, and class strategies on the basis of what they see and don't see in student responses. They were able to reflect on their practice. Future practice rested on past performance and it was the student's work that assesses that performance for the teacher. In summary, these practitioners recognized and exemplified the "complete spiral" of accomplished teaching which includes: having clearly articulated goals, giving meaningful assignments to achieve those goals, analyzing student work to see how well the goals were being accomplished, reflecting on teaching practice in light of the goals and performances, and adjusting future practice to better meet the goals.

What We Have Learned

After evaluating the portfolio entries from many teachers we found that student work is extremely revealing of a teacher's practice in several ways:

- the educational goals for the lesson. The goals should be clear, appropriate for the class, and embody high expectations.
- the opportunity students are given, or the assignment. It should elicit mathematical thinking and reasoning and engage students in meaningful mathematics.
- the nature of the student's response. It should reveal how and what the student was reasoning.
- the teacher's ability to accurately "see" the response. The analysis should indicate that the teacher accurately saw and interpreted all of the elements that

are important to describe where the student is building mathematical understanding.

- the teacher's response to the student's response. This response has two forms: feedback to the student and future practice. The teacher gives informative feedback to the student to help him/her gain further confidence and understanding. The teacher incorporates the analysis in reflecting about the lesson and responds by making adjustments to future lessons to meet the needs of the student.
- the teacher's ability to accurately connect the pieces. The whole process should be tightly connected.

Informing the Design of the Portfolio Entry

We found that teachers need encouragement and assistance in unlocking the resources available through student work. Many do not realize the difference between powerful and less powerful prompts or how important it is to have a clear connection between goals and the assignments one uses. It is obvious that a particular structure in the design of the portfolio entries is necessary as a starting point. Each portfolio entry has the same format and is explained below. (See Appendix B for an portfolio entry.)

The best place for each entry to begin is with the NBPTS Standards. The Standards articulate the expectations for the teacher. Each entry begins with an overview that uses the language of the relevant Standards to describe the kinds of standard-based practice this entry is intended to elicit, and gives a directive to refer to the complete text of relevant Standards.

The overview of the Standards assessed is followed by an overview of the entry, *What is the Nature of this Entry?*, and a summary of what the candidate is to do, *What Do I Need to Do?*. These sections summarize what it is a particular entry asks the teacher to show about his/her teaching and the actual requirements of the entry -- what kind of evidence the teach must submit and how much of it.

We found that teachers need assistance in selecting evidence that gives them opportunities to show their best practice. The section in the entry directions, *Making Good Choices*, focuses teachers' attention to the important choices that have to be made for the entry and provides guidance to the teachers when they are making those choices. The entries that involve student work require teachers to make four important choices: 1) choosing a class to use that is different from the class used in the other student work entry; 2) selecting the unit of study which is different from the units chosen for all other entries and which engages students in meaningful mathematics; 3) selecting the assignment which engages students in making applications and reasoning and thinking mathematically; and 4) selecting three students to feature whose responses give the teacher an opportunity to discuss his/her practice. For this reason, the best performing students may not be the best choices. The focus is on the teacher's practice, not on the level of student performance.

The ability to make good choices is important, but won't guarantee accomplished practice. Outstanding teachers are able to comment about their practice in an organized and thorough manner. The next section of the portfolio directions, *Written Commentary*, is designed to assist teachers to structure their commentaries. It divides a commentary into four sections: *Instructional Context*, *Planning*, *Analysis of Student Responses*, and *Reflection*.

For each section there are questions and suggested page limits to guide a teacher's commentary. The questions are necessary so that every teacher would have the opportunity to show evidence of the pieces of the "complete spiral" and how well connected the pieces of the spiral are to each other. The teacher's responses provide assessors with important information about the context of the class, the three students selected, the educational goals for the lesson and how the assignment is designed to elicit mathematical reasoning and thinking, the status of each student's understanding, the feedback given, the relationship between the student response and achievement of the goals, and the teacher's future practice. The design of these questions provide a rigid frame so all entries can be compared to the Standards fairly. Furthermore, the inside of the frame remains flexible enough so that a teacher can feature either a Basic Skills class or an AP Calculus class and provide evidence of meeting the Standards.

Following the *Written Commentary* section is the *Assignment and Student Responses* section. This section provides additional information about the purpose of the assignment and the student responses as evidence of a teacher's practice. We learned from the field test that many teachers need such information to be explicit and need for it to be repeated. There is speculation that many outstanding teachers do many things automatically and take those actions for granted. Furthermore, they frequently assume that everybody does the same things and do not articulate what they do and why. They need assistance with knowing what pieces of their practice have to be explained and when. Sections such as this one should help.

The final section, *How Will My Response Be Scored?*, presents the scoring criteria that will be used by assessors to judge each candidate's response. These are the things that matter in the entry, and it is suggested that teachers' consistently ask themselves if there is strong evidence of each of these characteristics in their materials.

Giving Support Beyond the Portfolio

To help teachers become better analysts of student work, we returned to accomplished teachers. The teachers gave evidence that they had the following qualities:

- thorough understanding of the concept being studied
- knowledge of students prelearned skills and past experiences
- knowledge of the typical misunderstandings and misconceptions
- knowledge of how one could find them out from others
- techniques of determining what students are really thinking by using writing as a way of exploring understanding
- knowledge of how to get good information
- ability to select, create or adapt good assignments

- recognition that there is a time and place for students to engage in memorization and practice and a time and place for students to explore and discover
- ability to use good information
- ability to recognize and analyze students' mathematical reasoning
- ability to articulate accurately what they can see, knowledge of what questions they should be asking of each student paper, knowledge of what are the answers, confidence in that they now know about each student's understanding
- ability to put analysis into practice
- ability to create connected opportunities to learned for students and themselves
- ability to reflect on their practice to inform future practice
- ability to circle back to their goals and repeat the cycle to make a "complete spiral"

It is a lengthy, if not intimidating, list to most teachers. To support teachers to improve their skills related to analyzing student work we created *Analysis Practice* (See Appendix C). Its purpose is to focus a teacher's attention to the selection of appropriate, worthwhile assignments, to the differences between describing and analyzing a student's work, to the skills needed to fully analyze and interpret a student's response, to the usage of new information to illuminate one's practice, and to the skills needed for reflective practice that will move a practitioner forward. Completion of the *Analysis Practice* exercise should help the practitioner with their actual portfolio entry.

Lastly, teachers have had few opportunities to write about students and their work. Therefore, they frequently answer a question requesting an analysis with a description. We created the piece *Writing about Teaching* for such teachers. (See Appendix D.) This piece give advice about the differences between writing a response that describes what happened in the lesson and writing one that analyzes what happened in the lesson. The assessment requires that teachers do both types of writing.

In conclusion, we learned a significant amount from the AYA/Mathematics field test about teachers' practice and the support they need to complete an assessment as complex as the one for NBPTS certification. We learned about the nature of the attributes accomplished teachers had in common, what structure was necessary to let them showcase these attributes and their practice, and what support teachers needed to complete the portfolio entries. The teachers' responses to the portfolio entries and feedback helped us to make some changes to the design of the assessment and to determine which support materials should be supplied to all teachers going through the assessment. The results of our changes and the support provided will not be known until the portfolios are assessed during the summer of 1997.

Adolescence and Young Adulthood/Mathematics Standards

The requirements for National Board Certification in the field of Adolescence and Young Adulthood/Mathematics are organized around four large themes: commitment; knowledge of students, mathematics and teaching; the teaching of mathematics; and professional development and outreach. The standards have been ordered as they have to facilitate understanding, not to assign priorities. Each is important in its own right.

Commitment

I. Commitment to Students and Their Learning
Accomplished mathematics teachers value and acknowledge the individuality and worth of each student, believe that all students can learn and use significant mathematics, and demonstrate these beliefs in their practice.

Knowledge of Students, Mathematics and Teaching

II. Knowledge of Students
Accomplished mathematics teachers use their knowledge of adolescents and of adolescent development, and their knowledge about the effects of this development on the learning of mathematics to guide their curricular and instructional decisions. They understand the impact of home life, cultural background, individual learning differences, student attitudes and aspirations, and community expectations and values on the learning of their students.

III. Knowledge of Mathematics
Accomplished mathematics teachers have a broad and deep knowledge of the concepts, principles, techniques and reasoning methods of mathematics that they use to set curricular goals and shape their teaching. They understand significant connections among mathematical ideas and the applications of these ideas to problem-solving in mathematics, in other disciplines and in the world outside of school.

IV. Knowledge of Teaching Practice
Accomplished mathematics teachers have an extensive base of pedagogical knowledge and use it to make curriculum decisions, design instructional strategies and assessment plans, and choose materials and resources for mathematics instruction.

The Teaching of Mathematics

V. The Art of Teaching
Accomplished mathematics teachers stimulate and facilitate student learning by using a wide range of formats and procedures, and assuming a variety of roles to guide students' learning of mathematics.

VI. Learning Environment
Accomplished mathematics teachers help students learn mathematics by creating environments in which students assume responsibility for learning, show willingness to take intellectual risks, develop confidence and self-esteem, and value mathematics.

VII. Reasoning and Thinking Mathematically
Accomplished mathematics teachers develop students' abilities to reason and think mathematically—to investigate and explore patterns, to discover structures and relationships, to formulate and solve problems, and to justify and communicate their conclusions.

VIII. Assessment
Accomplished mathematics teachers employ a range of formal and informal assessment methods to evaluate student learning in light of well defined goals. They use the results to inform the teaching process and provide opportunities for students to reflect on the strengths and weaknesses of their individual performance.

Professional Development and Outreach

IX. Reflection and Growth
Accomplished mathematics teachers regularly reflect on what they teach and how they teach. They keep abreast of changes in mathematics and in mathematical pedagogy, continually seeking to improve their knowledge and practice.

X. Families and Communities
Accomplished mathematics teachers support the involvement of families in their children's education, help the community understand the role of mathematics and mathematics instruction in today's world, and, to the extent possible, involve the community in support of instruction.

XI. Contributing to the Professional Community
Accomplished mathematics teachers collaborate with peers and other education professionals to strengthen their school's programs, advance knowledge, and contribute to improving practice within the field.

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National Board for Professional Teaching Standards
AYA/Mathematics Portfolio Entry Directions

Analysis of Student Work: Applications

Accomplished mathematics teachers understand their students and center their classrooms around students. They design lessons considering differing aptitudes, knowledge, interests, and ways of learning. They create situations that encourage students to explore and build upon previous knowledge and understandings, and enable students to recognize the connections among concrete, symbolic, and graphical representations. They create learning experiences in which students analyze a wide range of patterns from all aspects of scientific, technical, and practical work. They use calculators and computers as instructional resources to help students represent and reason about mathematical patterns. They have a broad and deep knowledge of the discipline, of the important mathematical domains, and of the processes of mathematical thinking. They design lessons to engage students in problem solving, mathematical communication, reasoning, and searching for connections. They have a clear understanding of the connections between mathematics and other fields of human endeavor, and connections within the strands of mathematics.

They design their lessons with important mathematical goals and select instructional techniques and activities that allow students to meet these goals. They make effective judgments related to content choice, sequence, emphasis, and instruction that will facilitate student understanding, communication, and reasoning. They identify, assess, adapt, and create instructional resources to enhance student learning.

They design appropriate and varied strategies to assess processes and products of students' mathematical explorations and problem-solving activities, modify lessons based on assessment results, and provide timely and instructive feedback to students. They reflect on what they teach and how they teach, seeking to improve their knowledge and practice. (See Standards II, III, IV, VII, VIII, and IX.)

What is the Nature of this Entry?

In this entry you will demonstrate your command of connections among mathematical ideas and the applications of these ideas to other disciplines, and your ability to implement this knowledge in pedagogy. Through a **Written Commentary,** an **Assignment/Prompt,** and **three Student Responses** you will show how you engage students in making important connections among ideas in mathematics OR the application of important principles in one domain of mathematics to another domain OR the application of important mathematical principles to disciplines and/or contexts outside mathematics (real-life applications).

What Do I Need to Do?

Submit a **Written Commentary,** an **Assignment/Prompt,** and **three Student Responses** that describe and exemplify your approach to engage students in making important connections among ideas in mathematics or between mathematics and contexts outside mathematics to help students better understand the mathematics being studied. (See **Making Good Choices** below.) **Failure to submit either a Written Commentary, an Assignment/Prompt, or three Student Responses will make your response to this entry unscorable.**

For this entry you will:

- Select three students who represent different kinds of challenges to you.
- Submit an assignment or prompt that requires students to explore and/or engages students in making important connections among ideas in mathematics or between mathematics and contexts outside mathematics to help students better understand the mathematics being studied. (See **Assignment/Prompt with Three Student Responses** for more detail.)
- Submit the responses of the three students you have selected to this assignment or prompt. (See **Assignment/Prompt with Three Student Responses** for more detail.)
- Submit a **Written Commentary of no more than 11 pages** that contextualizes, explains, and analyzes this teaching. (See **Written Commentary** for more detail.)

Making Good Choices

To begin, carefully read the section that follows describing the selections you will eventually have to make. As you prepare, collect more than one set of student responses to application assignments, recording the details you will need to complete your analysis. Read the **Written Commentary** section below to determine the kinds of information you will want to record, such as learning goals, the exact assignment, what came before and after the assignment, and evidence to support your analysis of the relative success of the assignment.

You have four important choices to make for this entry. First, you must **choose a class** that is different from the class you use in the *Analysis of Student Work: Assessment* entry. The class you choose can be at any level -- mathematical thinking and reasoning involved in mathematical application can occur at any level. Remember that a minimum of 51% of the students in the class you use as a sample for this entry must be 14 through 18+ years old.

Second, you will need to **select the unit of study** from which you will choose student work in response to the assignment/prompt. The unit of study must be one in which students are engaged in thinking and reasoning mathematically. In other words, the unit should NOT be one in which students are only memorizing procedures or are otherwise involved in rote learning. If the unit concerns the learning of and use of procedures, however, the focus for the assignment selected could relate to the reasoning behind the procedures and/or to identifying patterns to explain different approaches to problems the procedures help solve. You must choose a unit different from those used in the other entries.

Third, **select the application assignment**. The assignment should be one you designed, selected, or adapted to engage your students in the application of important mathematical principles to disciplines and/or contexts outside mathematics (real-life applications) OR the application of important principles in one domain of mathematics to another domain. The application assignment selected should be one in which students are developing their knowledge of the topic (or some aspect of it) by applications, and are encouraged, by the assignment itself or by the way in which you design the lesson, to think and reason mathematically. Students may complete the assignment individually or in groups, but all students should be required to document their mathematical understandings. What is important in this entry is to choose an assignment/prompt designed to illuminate important connections among concepts in mathematics OR connections between concepts in mathematics and another context.

Finally, you will need to select three students to feature. It is important to choose students whose responses to the assignments give you an opportunity to discuss your practice. For this reason, the best performing students in the class may not be the best choices for this entry. The focus is on your practice, not on the level of student performance.

The application assignment must be from a unit different from either of the units featured in *Instructional Analysis* entries (*Whole Class* and *Small Groups*), and must be from a unit and class different from the unit and class used in the *Analysis of Student Work: Assessment* entry. The work from the three students selected for this entry can be used only once in these entries.

♦ Written Commentary

Your **Written Commentary** must address the following questions and be organized into sections with the headings and subheadings that appear in boldface below. Consistent headings will help assessors locate the required information more easily. The entire **Written Commentary** must be **no longer than 11 typed pages**. (See Format Specifications for more detail.)

Instructional Context: In this section, address the following questions:

- *What are the relevant features of your teaching setting (subject matter of the class, ages of the students, the range of abilities of the students, the special needs students, the personality of the group, team teaching, self-contained classroom) that influenced your selection of this assignment/prompt and these students?* Include any other information necessary to help the assessor "see" this class.

- How does your instructional context affect your practice?

[Suggested total page length for ***Instructional Context:*** *1 page]*

Planning : In this section, address the following questions:

- *What were your learning goals (lesson objectives) for the lesson, activity, or instruction to which the student work attached responds?* Include an explanation of the connections you expected students to make.

- *Where does the application assignment/prompt fit in your instructional sequence for the unit?*

- *What is your rationale for using this particular assignment/prompt in light of your overall learning goals for the lesson and your overall goals for the unit and for the year?*

- *How was this assignment/prompt designed to elicit mathematical reasoning and thinking from students?* Please be specific.

[Suggested total page length for ***Planning:*** *2 pages]*

Analysis of Three Student Responses: In separate sections for <u>each</u> student, address the following questions: (Label each section with the student's first name.)

- *Why did you choose this student? What particular instructional challenges does this student represent? What is important to know about this student to understand and interpret the attached response to the assignment/prompt?* Describe the unique characteristics of this student as a learner.

- *What does this student's work tell you about the achievement of your learning goals?* Comment on the particular understandings revealed by each student's response -- misconceptions, gaps in prior knowledge, mastery of essential concepts, and the like.

- *What is the evidence in the student's response that the mathematical reasoning and thinking you stated took place in response to the prompt?*

- *What feedback strategies did you use for this student?*

[Suggested total page length for ***Analysis of Three Student Responses:*** *6 pages]*

Reflection: In this section address the following questions:

- *What does* ***each*** *student's work suggest about next steps for your instruction? What is the evidence for that judgment?*

- *After reviewing student responses to the assignment/prompt, what might you do differently, if anything, in this assignment or in advance of this assignment if you use it again? What would you repeat? Why?*

[Suggested total page length for ***Reflection:*** *2 pages]*

◊ **Format Specifications**

Your **Written Commentary** must be no longer than **11 pages**. If you submit a longer document, only the first 11 pages will be read and scored. The suggested page lengths for various sections represent their relative importance. Double-space your text, number the pages, leave one-inch margins on all sides, and use a font no smaller than 10 point. Consult the Font Table in the introductory directions for more specific directions. If you use a dot-matrix printer, set it at the highest quality print option. Be sure that the printer ribbon is in good condition.

The responses you submit must meet the above-mentioned requirements. If they fail to do so, your score may be reduced.

♦ Assignment/Prompt with Three Student Responses

The **Assignment/Prompt** and the **three Student Responses** discussed in your **Written Commentary** will provide assessors with important information about how you implemented your instruction, the experiences of three students during the lesson, and your assessment of these students' learning.

The **assignment/prompt** must meet the following criteria:

- It is designed to engage students in making important connections among ideas in mathematics OR in the application of important mathematical principles to disciplines and/or contexts outside mathematics.

- It elicits mathematical thinking and reasoning from students.

- It includes an answer key and/or responses that you would accept.

NOTE: Because the nature of the assignment/prompt you submit will be an important part of the evidence assessors will consider in scoring this entry, you should note that the assignment/prompt must offer students opportunity both to ***deepen*** their understanding of mathematics through making connections and to ***demonstrate*** that deepened understanding. Thus, a single worksheet or a series of computations or other brief preparatory activities will not be appropriate for this entry.

The **student responses** must meet the following criteria:

- Three examples of responses to the assignment/prompt you have submitted must come from three different students, each of whom represents a different kind of teaching challenge. These students must be different from the students whose work you have chosen for any other entry in this portfolio.

- Each response must represent the student's work and must be two-dimensional.

- The total number of pages of student responses submitted must not exceed 15 pages.

◊ **Format Specifications**

Send only two-dimensional responses that are no bigger than 8.5 by 11 inches. Do not send videotapes or audiotapes as responses. Be sure to delete last names of students or any identifying information about their families. Do not send class sets.

Separate the responses by student, as indicated on the cover sheets. Label each piece of information with the student's first name. (See Student Response Cover Sheets 1, 2, and 3 for more specific information.) Use the student's name in the text of the **Written Commentary** when referring to the response.

The responses you submit must meet the above-mentioned requirements. If they fail to do so, your score may be reduced.

How Will My Response Be Scored?

The following standards for accomplished Adolescence and Young Adulthood/ Mathematics practice constitute the criteria that will be applied to score your response to this entry. It is strongly recommended that you review these standards before

beginning and periodically as you prepare your entry. This entry will be evaluated with respect to the following standards: **Standard II: Knowledge of Students; Standard III: Knowledge of Mathematics; Standard IV: Knowledge of Teaching Practice; Standard VII: Reasoning and Thinking Mathematically; Standard VIII: Assessment;** and **Standard IX: Reflection and Growth.**

Your response will be judged on the basis of the extent to which it reflects the following criteria:

The response provides clear and consistent evidence that the teacher's knowledge of connections among concepts in mathematics and application in other disciplines is evident in the assignments given to students and in the teacher's recognition of the connections students make on their own.

The response provides clear and consistent evidence that the teacher has high expectations for student learning as shown by well-defined, appropriate, and worthwhile learning goals. In addition, the assignment given to the students elicits mathematical reasoning and thinking on the part of the students and communicates to students high, worthwhile, and appropriate learning goals. The teacher conveys to students appropriate and instructive feedback on their mathematical understandings.

The response indicates the teacher's ability to accurately and thoughtfully analyze each student's learning in light of the goals for this assignment, and to articulate appropriate next steps in teaching these students.

The response contains clear and consistent evidence of the teacher's ability to describe, analyze, and reflect on the practice represented in this entry by using the unique characteristics of each student's response to this assignment to delineate the individual characteristics of each of the students as a learner of mathematics. Furthermore, the response indicates the teacher's ability to engage in reflective thinking that suggests a clear understanding of past teaching and constructive suggestions for future teaching.

Analysis of Student Work: Applications

Assignment/Prompt and Three Student Responses Cover Sheet

Attach the assignment/prompt you have chosen to this Cover Sheet along with the answer key and the responses of the three students you have chosen. Label each student response with the student's first name.

Briefly describe the nature of this assignment/prompt below.

Overview

The purpose of the resources and materials that follow is to give you an opportunity to practice some important skills you probably rarely have time to use and further develop. Most teachers have little opportunity in their demanding professional days to systematically analyze all of the information students produce about who they are, what they know, and the state of their learning. And it is even more unusual for teachers to have the time or occasion to write down their analytical insights about students and their work.

The resources and activities that follow offer you a framework for thinking analytically about student work, particularly student responses to assignments, class work, assessments, and other instructional materials. A critical component of the assessment materials you will submit is the commentary you write about students and their work. Because this kind of writing is largely unfamiliar to most teachers, some practice is likely to be both helpful and reassuring. But beyond the purposes of the assessment, this kind of thinking and writing about your teaching will repay the time you spend on it tenfold. You will be surprised by the depth and breadth of your perceptions about student work once you begin to focus analytically, and, in turn, student work will become a much more interesting and critical source of pedagogical information for you than it has been.

One element of analysis is development of your own repertoire of questions and strategies for understanding the work students produce. The other essential element is creating rich and interesting opportunities for student responses, particularly in the occasions for response, or the prompts or problems posed for them as they explore and master new ideas.

About Analysis

The work of analysis is largely invisible. By the time you are ready to write down what you have seen, connected, interpreted, and realized, most of the effort is over. Often people write down the first stages in an analytical examination of instruction, and what they produce is a description of what they have seen rather than an analysis. Learning to be patient is crucial as you observe the evidence, describe it accurately, ask questions of it to make connections with other information and knowledge you have, and try out and reject or confirm hypotheses about student learning. Only after all of these stages can a thorough analysis be written. And if you are also reflecting on your practice as a part of that analysis, a further prewriting step is required. As you retrospectively connect what you did with what you see in the evidence of student learning, you must examine the effectiveness of your actions and

possible different options and their potential effects.

Given the significant portion of silent--but essential--cognitive work that must take place to produce an analysis that will serve to broaden and deepen your practice, and thus to enhance future student learning, it is very important to recognize that this process is the heart of an analytical approach to any complex professional activity. To help develop your confidence in the worthwhileness of this process, and in your ability to complete it, we have devised some activities that take you through the process step by step.

All of these activities use examples based on written student work. The principles apply to all instructional artifacts, and can be fruitfully used in conjunction with the *Video Practice* resources found elsewhere in these materials.

ANALYSIS PRACTICE ACTIVITY 1: OBSERVATION AND DESCRIPTION

Choose an assignment from one of your classes that you thought elicited a lot of information about your students' understandings. Gather together three different students' responses to the assignment. Be sure to choose three students who pose differing challenges to you as a teacher.

1. Look carefully at the assignment or prompt to which the student work you have chosen responds. Answer the following questions with specific details about the assignment. (The word "assignment" is used generically to mean any occasion , prompt, or other eliciting device for substantive student response.)

   - What was the goal of this assignment?
   - Why is this an important goal for student learning of the subject?
   - How was this assignment connected to other activities, in or out of class?
   - What subject-specific concepts did students need to know in order to complete this assignment successfully?
   - What misconceptions would you predict might appear in student responses to this assignment?
   - In what ways did you intend for this assignment to extend students' thinking about the topic?

2. What did each student do correctly? Incorrectly?

   - Student 1
   - Student 2
   - Student 3

3. For each of the students you have chosen, jot down brief descriptions of the following features of the response to your assignment:

Most striking feature of the response:

- Student 1
- Student 2
- Student 3

Patterns in the response:

- Student 1
- Student 2
- Student 3

Misconceptions each response reveals:

- Student 1
- Student 2
- Student 3

Insights each response reveals: (if any)

- Student 1
- Student 2
- Student 3

What feedback did you give each student?

- Student 1
- Student 2
- Student 3

ANALYSIS PRACTICE ACTIVITY 2: INTERPRETATION: WHAT DOES EACH STUDENT'S RESPONSE TELL YOU?

Using the same three student responses, think about and jot down answers to the following questions, answering each question for each student. Here the emphasis is on what you make of what you see.

ASK YOURSELF:

→ How can you interpret the response from the student?

→ What frame of reference is available to you to aid in that interpretation?

→ What are the cues the student and the work give you?

→ Using what you know about the connections that need to be made in order to understand ideas in particular domains appropriate to the content area, what does each student's response tell you?

→ How can your colleagues assist you in your interpretive work?

1. What is each student's most essential misunderstanding or difficulty?

   - Student 1
   - Student 2
   - Student 3

2. How does each student's response fit into what you already know about this student's understandings and performance? BE SPECIFIC.

   - Student 1
   - Student 2
   - Student 3

3. In two sentences for each student, describe what each learned from this assignment, judging from the responses.

   - Student 1
   - Student 2
   - Student 3

4. What does each student need to do next to move his/her understandings forward?

   - Student 1
   - Student 2
   - Student 3

ANALYSIS PRACTICE ACTIVITY 3: HOW DOES EACH STUDENT'S RESPONSE ILLUMINATE YOUR PRACTICE?

In this activity you are using what you have observed of each student's work and how you have interpreted those observations to illuminate your goals and your strategies for reaching those goals. The focus of this analysis is the degree to which the student's work shows that your goals for the assignment and for your instruction prior to the assignment were met.

1. For each of the three students, write a brief but very specific diagnosis of the degree to which this student work shows that your goals for the assignment were met.

   - Student 1
   - Student 2
   - Student 3

2. Explain briefly how your instruction prior to the assignment was designed to prepare these students to complete this assignment successfully.

3. For each of the three students, give your best diagnosis of the performance they have exhibited on this assignment. What parts of your instruction and/or preparation for this assignment do you think need reteaching or reinforcement for each student?

   - Student 1
   - Student 2
   - Student 3

4. Given each student's performance on this assignment, what goals should you set for each of these students in the immediate future? the more distant future?

   - Student 1
   - Student 2
   - Student 3

5. a. What was your feedback strategy for each of these students?

   b. Why did you choose that strategy for these particular students?

ANALYSIS PRACTICE ACTIVITY 4: REFLECTION

The final stage in analyzing student responses is reflection on your practice. It is in this final stage that you ask--in light of what the student responses have told you about individuals' understandings, difficulties, misconceptions, and gaps--what you might do next, or differently, or additionally for these students. It is the habit of reflecting on decisions made in the midst of the teaching day that distinguishes the analytical teacher. And it is reflective practice that moves accomplished practitioners constantly forward, as teachers become their own observers and coaches, congratulating themselves for making choices that advance student learning in particularly efficacious ways and encouraging themselves to try yet another strategy when they aren't satisfied with students' progress.

The following questions are designed to help you reflect on your practice with the three students that have been the focus of these activities. These questions, however, are questions that could be asked at the end of each teaching day about each class you teach. Once you begin to think in these terms, you need not write down the answers. You will find that the habit of reflection generates so many new ideas and strategies that you will hardly find the time to try them all.

Look back at the three student responses to your assignment. Briefly answer each of these questions about

these students, their responses, and your own sense of your practice.

1. What did each student learn from this assignment and the instruction that preceded it? BE SPECIFIC.
   - Student 1
   - Student 2
   - Student 3

2. What did <u>you</u> learn from each student's response?
   - Student 1
   - Student 2
   - Student 3

3. What would you do differently in light of the student response to this assignment?

4. In light your analysis, reevaluate your feedback strategies. Would you alter them in any way? If so, how and why? If not, why not?

5. Would you give the same assignment again? If so, would you prepare students for it differently? If so, how? If not, what assignment would you give in its place? Why?

Overview

Throughout the directions for the school-site portfolio exercises in the NBPTS certification assessment, you have been encouraged to "describe," "analyze," "explain," or "reflect." Much of the evaluation of the work you select as representative of your practice for the purposes of the assessment depends on your ability to provide insight into not just "what is happening" in your classroom, but the rationale for those events and processes. You do this, in the assessment, through the individual analyses submitted with each sample of instruction.

In these documents that accompany your samples, you are asked to describe your work, analyze it, and reflect on it. However, teachers generally have little practice in such description, analysis, and reflection--it is not a part of the daily practice of teaching. Therefore, before you begin the assessment itself, it will be helpful to gain some practice in this kind of thinking and writing.

It is essential to understand, at the outset, that the written analysis of your teaching is the final visible result of a great deal of less visible labor. That labor is the kind of work that the exercises in the preparation materials are designed to help you complete. Thinking analytically about teaching is complicated because teaching itself is complicated. The questions we have provided to assist you in getting underneath the surface of the daily details of your teaching are intended to help you begin the work of analysis. Systematic and probing questions about "why," "how," and "so what" are the key elements in analyzing your practice and beginning to reflect on it.

Thus, this brief guide to writing about teaching is really a guide to the summary activity that is preceded by all of the hard work of thinking, talking, discussing, prewriting, and rethinking that the preparation exercises are designed to help you do.

DESCRIPTION, ANALYSIS, AND REFLECTION

There are essential differences between descriptive and analytical writing. As you prepare your commentary and your analyses, you need to keep these differences in mind. The directions given in the assessment materials will call for one or another kind of writing; appropriate response to these directions is essential to your full presentation of your work.

DESCRIPTION

When you are asked to describe, be certain that your response meets these criteria:

- accurate and precise enumeration and/or explanation of critical features

- clear and logical ordering of the elements or features of the event, person, concept, or strategy described

- inclusion of *all* features or elements that would allow an outsider to *see as you see* whatever is described.

Description is called for when the prompt uses verbs like "state," "list," "describe" or asks "what" or "which" as the opening interrogatory words.

ANALYSIS AND REFLECTION

Analysis and reflection overlap, though they are not identical. Analysis involves interpretation and examination of *why* the elements or events described are the way they are. Reflection, a particular kind of analysis, always suggests self-analysis, or retrospective consideration of one's practice in the terms of this assessment. When you are asked to analyze or reflect, be certain that your response meets these criteria:

- The subject of the analysis is available to the reader (i.e., the student work, the videotape). If such an artifact is not available, a clear description of what you are analyzing must be given prior to the analysis.

- The focus of your writing is not on "what" (which is *descriptive*) but rather on "why" (which is *analytical and reflective*).

For example, if you are asked to analyze the success of a particular lesson or some specific teaching, do NOT explain what happened. This is the *description*. Rather, explain what *interpretation* you make of what happened, your sense of *why* it happened that way, and your understanding of what should come next.

Analysis deals with reasons, motives, and interpretation. All of these are grounded in the concrete evidence provided by your work sample. But the work sample cannot give us your understanding and interpretation of the significance of what you have submitted as samples of your practice. Only your analysis can do this. And your work sample cannot tell us what you have inferred about your practice from what we see--only your reflection can tell us that.

Analysis is called for when a prompt asks "how", "why," or "in what way[s]." When you are asked to identify a particularly successful moment in a sample of teaching and tell us why you regard it as successful, you must analyze. When you are asked for a "rationale," you must analyze.

When you are asked what student performance suggests about your teaching, you are being asked to analyze and interpret. This means that you are to use the evidence of student work to explain and illustrate your practice and your practice to explain and provide a context for the student work.

When you are asked what you would do differently, you are reflecting on and analyzing your practice.